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EDITOR
GRAND RAPIDS, MICHIGAN

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The Journal

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Vol. XVIII

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No. 1

Original Articles

X-RAY METHODS OF DETERMINING THE SIZE OF THE HEART.

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The recent work of Professor Bardeen has emphasized anew the clinical importance of heart-volume and the accuracy of its determination by X-ray methods. Bardeen's first article entitled "Tables for Aid in Determining the Size of the Heart by Means of the Roentgen Ray," appeared in the American Journal of Roentgenology for December, 1917. His second publication with full details of researches may be found in the American Journal of Anatomy, March, 1918. By this work a professor of anatomy has made a notable advance in clinical diagnosis and has increased the prestige of American roentgenology.

Bardeen's method is essentially the measurement of the parallel ray silhouette of the heart upon the X-ray plate and the comparison of this measurement with normal values. To obtain the heart silhouette the sitting patient leans forward against an X-ray plate which is placed at an angle of 20 degrees. The anode of the X-ray tube is placed 2 meters from the plate. An exposure covering not less than $1\frac{1}{2}$ seconds is then made, with breath held in moderate inspiration. This insures the diastolic outline of the heart in the antero-posterior position. The silhouette thus obtained must be completed by a line joining the apex of the heart with the right auricle and also above by joining the right auricle with the line of the left auricle. The area thus enclosed is readily estimated in square centimeters by means of a planimeter.

This area is larger than the true size of the heart because the X-rays diverge from a focal point. A reduction of 6 per cent. is therefore made to give the true parallel ray silhouette. The result is then comparable to that obtained

by the orthodiagraph whereby the pencil and the X-ray tube move together so that the outline of the heart is traced by parallel rays.

The finally corrected area is then to be compared with the normal. It is here that the value and difficulty of Bardeen's researches becomes apparent. It was only after an immense amount of work on the cadaver and on the living, as well as an exhaustive examination of the work of other investigators, that two tables were produced giving the normal relation of the heart silhouette area to the transverse diameter of the heart, to body weight, to heart weight, to heart volume in diastole and to the height, for either sex, from childhood to old age. We are thus enabled to estimate either heart-weight or heart-volume and compare either with the normal for a given height of the patient or for a given weight, at any age.

After this brief general description we may take up a few of the more important points in greater detail.

The use of the planimeter is another example of the clever adaptation in diagnostics of an instrument developed in a widely separated science. By means of this instrument engineers have long been accustomed to estimate the square area of any surface however irregular by simply tracing the outline by the pointer attached to an arm and then reading the square inches or centimeters from a graduated disc or wheel. It would be a practical impossibility to compute the square area of the heart silhouette by any other method. The planimeter has thus become a necessary part of a clinical equipment.

The reduction factor of 6 per cent., whereby the true parallel silhouette area is determined, is a value obtained by estimating the median plane of the heart from the front of the chest as one-third the distance from front to back of the thorax. Bardeen arrived at this average by a large number of measurements in the dissecting room and by a process of mathematics from stereoscopic plates of living subjects. He was able to verify the work of Albers-

Schönberg whom he quotes. Knowing the antero-posterior diameter of the thorax, the position of the median plane of the heart, and the distance of the source of X-rays from the plate, it is a simple matter to compute the factor of reduction and obtain the parallel ray silhouette area.

The patient is examined in the sitting position because the heart is then subject to the smallest physiologic variations in size. In the standing position the heart was found to be, on an average, 13 per cent. smaller than in the prone; while in the sitting posture it is, on an average, 6 per cent. smaller. These changes in size are associated with changes in the hydrostatic pressure in the inferior vena cava and with the volume of blood accumulated in the venous systems. Bandaging the lower extremities materially reduces the differences in heart volume due to changes in body posture. It is a reproach to clinical methods that so little regard has hitherto been placed upon these changes in heart volume. Hereafter the clinician as well as the roentgenologist must specify the position of the patient in dealing with the size of the heart. It is apparent that the sitting position is the natural standard and is particularly to be chosen so that comparison of results may be made with the Bardeen tables.

The one inherent weakness of the Bardeen method is the necessity of completing the outline of the heart from auricle to auricle across the aorta and from apex to right auricle where the liver shadow joins that of the heart. To minimize the possible error Bardeen advises that the patient be given an effervescent drink before the X-ray exposure is made so as to distend the fundus of the stomach with gas. The apex and a part of the lower heart border will be defined by this maneuver. Bardeen made repeated tracings from the cadaver and by subsequent dissection demonstrated that the error from this source in estimating the true size of the heart is negligible. Nevertheless a personal equation is here introduced and the judgment and experience of the examiner became factors in the final result.

Various intrathoracic diseases may obscure the outlines of the heart to a greater or less degree so as to make the Bardeen method impossible. Examples are pulmonary tuberculosis, pleuritic effusion, empyema, mediastinal tumor and aneurysm. Fortunately in such conditions heart volume is not often of diagnostic importance. Such diseases also interfere with the usual clinical methods.

Prior methods of X-ray estimations of heart-size consisted in the measurement of one or more diameters of the heart silhouette obtained by some specified technique. Such a diameter was compared to the diameter of the chest or to the size of the patient but no recognized tables existed and no standard method was agreed upon by roentgenologists. Likewise in works on clinical diagnosis no tables of heart volume compared to weight and height of the individual are to be found, doubtless because the determination of heart size by percussion and auscultation is so admittedly inaccurate that a table would be a supererogation. The position of the apex beat in relation to the nipple line is the almost universal criterion of heart volume used by the average clinician. This might be of more value if the apex beat represented the true apex and if the nipple line bore anything like a constant relation to the anatomy of the thorax. In short, prior X-ray and physical methods were so wanting either in standardization or in accuracy that the Bardeen method finds itself virtually without a competitor in furnishing the most fundamental datum in the clinical examination of the heart.

ETHICS.*

R. H. SPENCER, M.D.
GRAND RAPIDS, MICHIGAN.

The wrong-doer never lacks a pretext. No matter how crooked and insincere his ways, no one would be able to prove that he acted from unworthy motives and not from ignorance or error of judgment, even if the most flagrant violation of the glorious Golden Rule laid down by Confucius and quoted by our Saviour: "Do unto another what ye would he should do unto you, and do not unto another what you would not should be done unto you." Truly a world of ethics in a nut shell, an ocean of morals in a drop, yea, the essence of all religion.

The absence of the above code is no doubt the cause of the bloody war through which we have just passed, as the German motto was: "He may take who has the power, and he may keep who can."

Dr. Thomas Percival, an English physician, in a small book published in London in 1807, proposed an admirable code of ethics which, excepting a few alterations made necessary by the advance of medical science, is the identical code adopted by the A.M.A. and which from then

*Retiring President's address, Kent County Medical Society, December 18, 1918.

until now has instructed and guided our profession. In 1903 by unanimous vote of the A.M.A. at New Orleans the old code of 1847 was rescinded by setting it aside and substituting a series of suggestive and advisory aphorisms designated as: Principles of Medical Ethics, among which is the following noble paragraph:

"The broadest dictates of humanity should be obeyed by physicians, whenever and wherever their services are needed to meet the emergencies of disease or accident."

The highly important change secures every man's liberty and removes all clannish restrictions and penalties, and leaves Surgeons, Specialists and all others absolutely free to consult with Dr. Orthodoxy or Dr. Heterodoxy, or Dr. Homeopathy or Dr. Eclectic, or Dr. Anybody-else, when either emergency or any other impelling motive inclines him to do so.

This great change is not only like a ladder let down from Heaven to hundreds of thousands of the afflicted, but it also forever frees the regular profession of America from the old charge of "bigotry" and starts it on a still greater path of progress.

Of the prevailing tendencies in medicine, the one most to be deprecated is that to commercialism. It is perhaps not surprising that our profession, in common with other callings, should feel that baneful influence of this spirit of our age.

It is an evidence of the fact that, in the public mind, financial success has come to overshadow every other form of achievement.

The law, it is said, has almost ceased to be a profession and has become only a business, adopting business methods and business standards. May this never be true of medicine.

It is perhaps not to be expected that human nature should be changed by attaining the dignity of affixing to one's name the letters "M. D."

There are several ways in which the commercial spirit may manifest itself in medicine. One of the most common springs out of an inordinate ambition for immediate success. It is not natural, it certainly is not desirable, that great professional success should come at once to a young physician just out of his college or hospital. Time is necessary for experience to accumulate and judgment to ripen. "He who makes undue haste to succeed shall not be blameless." That shrewd advertising may bring business in medicine as well as in trade, the success of the numerous chalatanes bears witness. But he does not wish to become

an advertising quack and see his card in the morning paper. He adopts other devices. He advertises himself to his friends and acquaintances. His wife bends all her energies towards placing him before the public. He cultivates the acquaintance of the newspaper reporter, and soon his name finds its way into the Public Press. He is interviewed in regard to the prevailing epidemic, to remarkable operations, or with some new ideas on the subject of the treatment of T. B. He is apt to advertise to his patients and acquaintances that he is up-to-the-minute on the latest treatment and is injecting serums of various kinds into nearly every patient that he sees because it appears to be something new, without regard to any proven merit in the serum. This has two purposes—it makes a mental impression on the patient, and is an excuse for exacting a larger fee. There are ways innumerable in which the advertising doctor seeks to advance himself. To narrate is neither profitable nor interesting. To some, such practices as those described may seem only in bad taste; others, possibly, may regard them as examples of an enterprise almost meritorious. But it is difficult to draw the line as to how far one may go and yet preserve his reputation. Vaunting ambition and a desire for financial success lead to and finally end in practices absolutely dishonest, and soon lead on to the policy of doing operations which are not positively indicated for the sake of the fee. This is a subtle temptation to every physician or surgeon whose eye is always upon the almighty dollar; but it comes with increased force to one whose financial needs are great, his vision of right and wrong must be very clear and his ethical standards high not to be biased in such emergencies. He begins by contrasting his own small fees and income with those currently reported of the specialist or surgeon. "Why should I not receive a suitable commission for the business I can control? There are plenty of skillful men who are willing to divide the fee with me. The patient is well served. Who then can complain?" Such a man belongs in business, not in a profession.

This leads to the mooted subject of fee splitting on which I wish to dwell at some length. We do not for a moment deny that secret fee splitting exists and that it is an evil practice, although we do deny that it influences the patient as unfavorably as is claimed. Its very secrecy is the most objectionable feature and might, indeed, lead to

serious and even criminal abuse of professional confidence if physicians were not what they are as a class—honest, upright men who desire to do the best for their patients. Unfortunately, it is equally true in this, as in other folds, there are black sheep—dishonest men who ought to be drummed out of the profession. But this cannot be laid as a charge to the physician, as a class. Is there any class of men free from undesirable members? Even among the angels, we are told, “there was one who fell.”

Mind you, I do not defend secret fee splitting. I think it is wrong and undignified. I believe it secures something to the doctor in an underhanded way to which he is justly entitled and which he should receive openly. That I may make my meaning clear, I shall here make a statement which probably will be followed by some criticism, as it will illustrate my meaning better than in any other way. I will cite a case in point. A woman consults her family physician for an acute abdominal trouble; the doctor makes a shrewd and correct diagnosis of ovarian cyst with twisted pedicle; the patient is ordered to the hospital and a surgeon called; the surgeon accepts the diagnosis of the attending physician; patient is prepared and operated upon; operation reveals that attending physician had made correct diagnosis; surgeon does not see the patient again. Physician looks after all post-operative treatment for two or three weeks till patient returns to her home, fully recovered. Now comes the fee splitting part of the recital. Patient asks the doctor for her bill; he makes a bill for \$250, this to include the surgeon's fee; surgeon receives check for half the above amount, \$125. Patient knows that the fee was divided and was perfectly satisfied. Surgeon was satisfied and stated that the fee was \$25 more than he had expected. All parties interested were perfectly satisfied and there was no secrecy. The family physician had received a fee commensurate with the accurate diagnosis and the after treatment, to which he was entitled. If the above method of fee splitting is followed to the letter, I can see nothing that is unethical about it, and the case illustrated is only one of many, in which I have followed the plan above stated.

People have become accustomed to think rather lightly of the general practitioner who, however strenuous and anxious in time of stress, is usually unobtrusive and anything but spectacular. Compare with it the compli-

cated machinery and the strange surroundings, and the whole array of awe-inspiring instruments, further the skilled and deft attendance of nurse and assistant, all combined to create a deep impression on the patient and his friends. The subordinate patronized position of the family physician, in the presence of the surgeon and his corps of assistants, who may not be half as capable as the modest country doctor, further contribute to lower him in the estimation of his clients.

The attending doctor's fee is too frequently forgotten, or if remembered, set aside. All the money is needed for the surgeon and the hospital.

An operation is something definite, something tangible. Notice how in a meeting of a lot of old women, some of whom “have had an operation,” had one or the other organ removed, and conversation turns into an “organ recital” with obligato reflections on the shortcomings of the attending doctor.

People are not, or are only in a measure, afraid of operations. At least they like to have been operated upon. It confers a sort of distinction and furnishes an unending supply of material for conversation and gossip. Nor is the money question considered of paramount importance. A surgeon's bill of two or three hundred dollars with all the fixings of hospital expense is a delicious morsel. People pay without hesitation far greater fees to Christian Scientists, Osteopaths and advertising quacks than they would stand from their home doctor.

Just a word at this time about fees. Several of the members of the Kent Co. Society have asked me if I would not bring up the matter of establishing a fee bill for the Society on the ground that the high cost of everything that we use has increased from 50 to 100 per cent., thereby justifying raising the fees that we have been hitherto charging. My personal view of the matter is that physicians of all classes must learn to make charges commensurate with the value of their services. Fee bills hinder in this. The fee bill is the Union scale. It bolsters up the incompetent and often prevents the high class, scientific man from getting his desserts. A hide-bound fee bill and an increasing lack of appreciation of the practitioner's value dwarfs him and compels him to resort to questionable methods for playing even. He must learn to elevate his standing by special fees for his improved methods of diagnosis and treatment. These have

been acquired, perhaps by special post-graduate courses, time abroad, and special equipment, and yet his price per visit or consultation must be governed by the fee bill.

I see no objection to establishing a skeleton fee bill which would be something to refer to, as a reason for increasing our fees at the present time to keep up with the high cost of living. As an illustration, I have sent out on my monthly statements to my patients that "since Sept. 1st, house-calls, \$3.00; office-calls, from \$1.50 up." Thus far, no complaint has been made.

An address on ethics would not be complete without a word concerning criminal abortion. In a book entitled "The Physician Himself," published in 1906, written by D. W. Cathell, M.D., I have found the following from which I quote:

"When you are importuned to produce abortion, on the plea of hiding from the world the yet-undiscovered guilt and saving the poor girl's character; or preventing her sister's heart from being broken, or her father from committing murder or suicide, or him who has taken criminal advantage of her from being disgraced; or to avert the shame that would fall on the family; or the church scandal about one of the weak brethern; or to limit the number of children for married people who already have as many as they want, or who are just married and do not want the inconvenience of children so soon; or to accommodate ladies who assert that they are too sickly to have children or that their suckling child is too young to be weaned; or that they have been pregnant only a short time; to dry the tear that falls from beauty's cheek, or to avoid other anticipated evils; and that if you do not do it some one else will, we beg you, brother, by all the gods at once, not to stop to discuss the subject with a 'h'm' and 'haw' but meet such entreaties and arguments with a refusal prompt, strong and positive and don't even let yourself appear to entertain the proposition. If they are too importunate, inform them that they have entered the wrong door, and express your sentiments in unmistakable, upright, downright, outright American frankness; and then bow them out; but remember that these are terrible secrets, and seal your lips doubly tight. It is always safe to do right and never safe to do wrong."

With victory in the war against German autocracy, is the war against venereal disease to cease? Have you read extracts from letters

to civil authorities from W. G. McAdoo in behalf of the U. S. Public Health Service? If so, you have been impressed with the fact that Mr. McAdoo knew something about health measures as well as selling "Liberty Bonds" and running railroads. I append a few quotations from him:

"Under the protection of the military authorities, four million soldiers and sailors received greater protection against venereal diseases than they received before the war in civil life. The cities and towns through which they go and to which they will return upon demobilization must be made safe. The fight * * * * must be vigorously continued.

Extract from telegram to governors from
Newton D. Baker, Secy of War.

"Signing of armistice in no way lessens responsibility of civil communities for protection of soldiers from prostitution and sale of liquor. Our states and cities ought never to lose the control which has been established or stop so vital a work. War Department is determined to return soldiers to their families and to civil life uncontaminated by disease."

Extract from statement by Josephus Daniels
Secretary of the Navy.

"One of the compensations for the tragedy of war is the fact that an enlightened opinion is behind the organized campaign to protect the youth against venereal disease. The campaign begun in war to insure the military fitness of men for fighting, is quite as necessary to save men for civil efficiency."

All of the above will show that venereal diseases are a peace problem, and our Society should take hold of it and give it the attention which it deserves, and we should use our best endeavor to extinguish the light in the Red Light District.

In writing of ethics, one becomes enthused by the topic and is apt to go on at too great a length, consequently I will close by saying that the preceding is the situation which is now confronting us and it is high time to separate the sheep from the goats, if medicine is a profession that stands for something more than mere commercialism, if it possesses every quality that is honorable and noble. Let us do nothing to disgrace it. We should rather raise it until it has reached the climax of ethics and its standard has become the highest obtainable.

REPORT ON SIX HUNDRED AND THIRTY-EIGHT HERNIOTOMIES PERFORMED DURING MAY, JUNE, AND JULY OF 1918.

W. T. DODGE, M.D., F.A.C.S., Maj., M.C.U.S.A.

CAMP SHERMAN, OHIO.

(Chief of Surgical Service, Base Hospital, Camp Sherman, O.)

May 1, 1918, the Surgical Service at this hospital was notified that the 158th Depot Brigade contained approximately five hundred men who were awaiting operation for hernia. During the previous existence of this hospital a few herniotomies were performed but on account of the existence of various camp epidemics involving a tendency to bronchial and lung infections, no attempt had been made to clear up the large number of hernias admitted to the Camp for remediable purposes. It was the order of the Division Surgeon that only such cases be operated upon as presented a reasonable prospect of success from a military standpoint and that large hernias with weak abdominal walls should be refused operation. A member of the Surgical Staff was designated to examine all the cases and as a result of his examination, approximately 10 per cent. of the cases were rejected and discharged from the service. The number of cases remaining was four hundred and ninety-two, presenting six hundred and thirty-eight hernias, classified as follows:

Inguinal, right, complete	128
Inguinal, right, incomplete	190
Inguinal, left, complete	83
Inguinal, left, incomplete	207
Femoral	7
Umbilical	12
Ventral	11

Total 638

These cases were operated upon between May 1st and July 31st, eighty-six in May, three hundred and twenty-six in June and two hundred and twenty-six in July. The operations performed were as follows:

Bassini	512
Ferguson	94
McEwen	2
Femoral (Ochsner)	2
Femoral (Imbricated) (fascia)	5
Umbilical (Mayo)	12
Ventral	11

Total 638

The personnel of the Staff at the Base Hospital is constantly changing as its function is not only to care for the sick and injured, but to serve as a Training School for Officers, Nurses and Enlisted Personnel. Consequently officers are frequently leaving on assignment to overseas units and others are as constantly reporting from civil life or from Training Camps. It was the custom of the Chief of this Service, (during the period covered by this report Major C. T. Sturgeon, now Chief of Surgical Service in Unit No. 108) to assign each member of the Staff for his turn in the Operating Room, either as operator or assistant, the usual practice being to assign two as a team at one table, who alternated as operator and assistant. Therefore the number of operators concerned in this series was very large. It was also left to each operator to decide on his own technique. It would then be reasonable to conclude that the results in a large series of cases would not be so favorable as in a similar series operated by one skilled and experienced surgeon. There were numbered among our operators many distinguished and experienced surgeons, but there were also many young men fresh from internships. It was the custom to associate these young men with the experienced and thus afford them instruction in operative work. At first there was much difference in technique used, but later the practice became quite uniform. In the majority of cases the sac was separated and ligated high up and permitted to slip up under the Internal Oblique and was not Kocherized. The shelving edge of Poupart's Ligament was attached to the Conjoined Tendon with No. 3 chromic catgut sutures and the cord transplanted, the External Oblique being sutured with continuous chromic gut. Skin and superficial fascia were closed with interrupted silk worm gut sutures. In ninety-four cases the cord was not transplanted, this being the only distinction between the so-called Bassini and Ferguson operations.

The routine of preparation for operation was the same for all and was as follows: The patient's abdomen was scrubbed the day before and shaved and the abdomen covered with sterile gauze, which was removed in the operating room. Castor-oil was given two days previous to operation if the patient was in the hospital in time. Under no circumstances was

a laxative given the night before operation. After the patient was anesthetized the abdomen was washed with benzine, dried and painted with three and one-half per cent. tincture of iodine. The operators' hands were scrubbed with green soap and hot water for ten minutes, soaked in lysol solution for two minutes and rinsed in sterile water, dried and covered with rubber gloves sterilized in the autoclave. Fresh gloves were of course donned for each operation, but the aprons were not always changed unless soiling had occurred, the fronts being covered with fresh sterile towels. The wounds were covered with sterile gauze securely fastened in place with adhesive strips and not disturbed for ten days. Patients were permitted to sit up in two weeks and in three or four weeks were discharged to the Infirmary of the Development Battalions with the understanding that they should not be returned to full duty until two months after the operation.

There were nine cases of superficial infection, the organism in each case being the *Staphylococcus Albus*. All the infections were superficial and did not interfere with the wound healing or the success of the operation. The one case of recurrence coming to the attention of this service was not infected. In that case the cord was not transplanted. This was done however, at the re-operation in September.

It was not practicable to conduct operations regularly in the afternoon as the nurses required that time to prepare for the next day and the plan adopted June 1st, which made it possible to perform so many operations in so short a time in addition to caring for the large amount of other operative work, was to place two tables in one room running two operating teams at the same time. One of the Staff had charge of preparing the patients and starting the anesthetics, so that the operators were subjected to no delays between cases. Three anesthetists were always available as well as four nurses and a sufficient number of orderlies. Other operating teams cared for other classes of cases in the second operating room. Ether was the universal anesthetic used, except in a few cases toward the last of the series when Nitrous-Oxide-Oxygen was used. By this method on some days twenty-five herniotomies were performed between seven-thirty and twelve o'clock.

A few cases of pneumonia presenting type IV. pneumococcus developed, and finally a severe outbreak occurred in one ward, nine cases appearing in one day. This led to a survey of the ward by the Laboratory under the direction of the Chief of that Service, Major C. P. McCord. Of forty-eight people connected with the ward, forty-four were found with pneumococcus type IV. in their throats. This ward was quarantined, the inmates caused to use a gargle suggested by the Laboratory consisting of a solution of 1:10,000 Quinine Bi-Sulphate. After three days all the throats being found sterile, operations were resumed from this ward and no further pneumonia occurred. After that experience the rule was adopted that all cases must use this gargle for two days preceding the administration of ether. No case of post-operative pneumonia occurred after this rule was adopted. The disease in nearly all cases terminated by crisis in four days and all recovered. The Surgical Staff acquired so much faith in this simple gargle as an agent to destroy pneumococci in the throat that they faithfully used it during the influenza epidemic in October and attribute to that practice their freedom from pneumonia. No member of the Surgical Staff, nor of the nurses or orderlies connected with the Operating Room contracted pneumonia during the epidemic, although all of them did work on the Medical Service and were repeatedly exposed to the infection. Several of them had influenza. The Quinine Solution is a specific germicide for the pneumococcus, but not for other organisms.

It is not possible to report definite results on all these cases on the question of permanent cure of the hernia. So far as this Service is concerned, **only one case** has come to its attention with a recurrence. He was operated in July and was sent to the Disability Board at this Base Hospital in September with a request for his discharge on account of recurring hernia. Reference to his history disclosed that he had been operated upon by a competent surgeon, that he had suffered from no infection and had been discharged from the hospital three weeks following operation. It transpired that he had been sent to his organization instead of to a Development Battalion and had been subjected to full duty at once. He was admitted to the hospital and re-operated with satisfactory results. Three hundred and ninety-two of the cases composing this series were

transferred to Development Battalion No. 2. The infirmary of that Battalion has the records of all discharged from the service and of the present disposition of those remaining in the Battalion. These records number one hundred and seventy-eight cases, the remainder having been transferred to other camps or to other organizations. That leaves one hundred who were returned to their line organizations or to other Development Battalions. Many of them were members of the Base Hospital Detachment and are still on duty. None of the Detachment men have suffered from recurrence.

A Development Battalion classifies its men as follows:

Class A—Fit for general military service.

Class B—Fit for limited military service, but in good condition; able to march five miles a day.

Duty Grade—Fit for labor organizations.

November 14th, 1918, the Commanding Officer of Co. C, Development Battalion No. 2, kindly informed me that the one hundred and seventy-eight hernia cases remaining in his organization who were operated in May, June or July, which included all the cases operated upon during those months who had been discharged by the Disability Board of the 158th Depot Brigade, were classified as follows:

28 per cent. Class A.

43 per cent. Class B.

23 per cent. Duty Grade.

6 per cent. Discharged.

"Of those discharged 4 per cent. were for other causes than hernia. Of the 43 per cent. Class B men, 40 per cent. will be placed in Class A within the next thirty days. The 23 per cent. duty Grade will be placed in labor organizations and are so placed for other reasons than their herniotomies."

It appears then that in an average period of four and a half months there have been 2 per cent. recurrences in one hundred and seventy-eight cases. This, however, includes all the known recurrences in three hundred and ninety-two cases, the remainder having been transferred to other camps, free from recurrence. In course of time recurrence will take place in other cases no doubt, but it is not likely to exceed 2 per cent. of all cases operated. This result compares very favorably with the results obtained by individual operators in large series of cases. No death occurred in the series.

In conclusion the writer expresses the opinion that the most important thing to consider in performing a herniotomy for inguinal hernia

is the treatment of the sac. If the sac is thoroughly separated from the tissues of the cord and ligated at the reflection of the peritoneum the hernia is not likely to recur whether in subsequent proceedings the cord is transplanted or not. Many of our cases were of the incomplete type and it is necessary in such cases to raise the cord in order to locate the sac which invariably comes out of the abdomen underneath the cord. Many of the operators transplanted the cord in all cases of this kind and did not transplant if they found it unnecessary to raise the cord from its place in the canal. Exposure of the shelving edge of Poupart's ligament freeing it from fascia and securely sewing it to the conjoined tendon whether underneath or over the cord, is considered vital to the permanent cure of the hernia.

PEACE AND WAR IN THE HUMAN ORGANISM.*

F. MCD. HARKIN, M.D.

MARQUETTE, MICHIGAN.

*Read at meeting of Michigan State Medical Society, held at Houghton, Michigan, August, 1916.

Life lapses into Death, and Death to Life,
What space between is growth or slow decay,
Resistless mankind feeds the constant strife
While cycles Earth to elemental day.

Mr. President and Gentlemen:

If I have dared to caption this paper with those introductory lines from an old college-day fugitive poem, it is because it fairly well expresses the constant struggle of the human organism, from the cradle—aye and before it—to the grave, to live in that state of stable equilibrium which we know as health, or peace, or harmony with its environment.

In the Universe itself, with its sidereal systems, suns, moons, planets and other bodies, gaseous and solid, we observe that by attraction and repulsion, these various systems and bodies live in quite a state of harmony—yet even here collisions occur, and sometimes the smaller body meets absorption or destruction by one of its larger neighbors. Still the ideal striven for, is that of peace—of live and let live—of health—of harmony.

When we consider our own little planet and its chief living occupant—homo sapiens—we find here also a desire or innate ideal of peace which however embryonic in the early stages of man's existence still has been making itself more and more evident as the centuries progress—but how imperfectly the ideal is as yet

developed, can be easily demonstrated by the present great conflict of nations—the greatest of historic or perhaps all times.

The enemies of the human organism itself may be divided into two great classes—(1) External—or those operating from without, and (2) Internal—or those operating from within. Of “External” enemies which operate against mankind as a whole we have, firstly, the great external causes which might be called *cosmic*—such as earthquakes, volcanoes, tidal waves, floods, famines, cyclones, fire, frost, and electrical storms; secondly, those which might be termed *animalistic*, such as wild beasts, poisonous reptiles, centipedes, lizards, tarantulas, sharks, etc.; thirdly, those which for want of a better name might be classified as *mobilistic*—and the result of accidents during transportation by railroad, boat, automobile, horse, and latterly, aeroplanes, and their like; and lastly, we have the *fatalistic* or those which are the result of violence exercised by man himself—against himself or his neighbor—such as suicide, rape, murder, legal execution and war.

Of “Internal” enemies operating on a large scale, we have disease epidemics—now mostly under control in times of peace, such as plague, cholera, smallpox, typhoid, yellow-fever, malaria, etc.; and also have we the great universal triad of human destroyers—Tuberculosis, Cancer and Venereal Diseases.

Taking a closer view of the human organism in its struggle not only for life itself, but for peace during life—or what is otherwise called health—we find oftentimes, that war is declared upon the prospective human adult, from the very moment of conception, and continued until mortality claims its own. Thus, we might further classify enemies of the human organism into (1) Pre-natal and (2) Post-natal. Pre-natal enemies might be further subdivided into those operating (1) at conception (2) during gestation and (3) at birth. Under the heading “at conception” the first fatal error of the embryo is to locate itself in a wrong habitat—otherwise known as an extrauterine pregnancy. We can also list here such enemies as syphilis and the hereditary diathesis of such diseases as tuberculosis, leprosy, carcinoma, scrofula, gout, insanity and many others.

“During gestation,” the perils of the growing foetus are indeed numerous, for besides the many unavoidable and accidental dangers of miscarriage, there is frequently added the

murderous assault of both lay and professional abortionists.

“At Birth,” if our homunculus has survived the pitfalls of a diseased placenta or a placenta previa, it may now succumb to one of the dangers of dystocia—such as uterine fibroid, ovarian cyst, deformed pelvis, or it may furnish its own offensive weapon in the form of a hydrocephalic tumor. It may be further endangered by a mal-presentation or it may hang itself by the neck until dead. Escaping all these perils, it must now run the gauntlet of the unqualified midwife and the careless or inexperienced physician, who may bury the poor little “toddlkins” through ill-timed or misapplied instrumentation—or by the faulty ligation of the umbilical cord.

Now, when we come to consider the “post-natal” enemies of mankind, we find amongst others in the early months of life, the inability to secure breast-food—the ignorance about infant feeding and management—a hard problem at best, and especially where poverty, filth and squalor abound, in other words, where exists an unfavorable environment. At this time, were it not for the inextinguishable devotion and self-sacrifice of parental love, there would be many more of the infant human organism that would never see maturity.

Of “internal enemies,” even *the infant* is soon beset by many foes—principally, those of the digestive tract, from defective nutrition—and microscopic antagonists either of intestinal origin, or those of the so-called zymotic diseases. It is now, also that if the luetic embryo is world-born, that arch-enemy of humankind—syphilis, strikes fearfully and abhorrently at the citadel of life, or conquered temporarily, awaits a more favorable opportunity for further attacks.

During the early years, i. e., of childhood, the human organism has to contend with such external enemies as accidents of various kinds—blows, falls, cuts, burns, explosions, drownings and so on, ad infinitum—but still the internal enemies are the most formidable: unbalanced secretions, intestinal toxæmias, perverted metabolism, zymotic diseases, pyorrhoea, adenoids and infected tonsils with all their disastrous sequelae of secondary infections.

During adolescence, besides the usual accidents, we have the external and internal injuries resulting from strenuous athletics, while from within we must note the greater incidence of tuberculosis, the liability to venereal disease, and oftentimes, the entering wedge of alcoholism.

During the third and fourth decades, with the exception of the perils of child-bearing, mankind enjoys a comparative immunity from many internal enemies, and this period might well be called the "Golden Age" of man.

It is about the fortieth year of life that the wear and tear of human machinery usually begins to manifest itself, by disturbing the peace of the human organism with a new set of internal enemies, of which many are of so slow, insidious and chronic a nature, that they evoke in the recipients of their attacks, all the refinements of suffering—in other words—all the horrors of war. Amongst these might be mentioned, the products of perverted cellular morphology, such as cancers and sarcomas, with cysts, tumors and growths galore, ulcerations and obstructions of the digestive tract—the scleroses, with lesions of heart, kidney, liver, gall-bladder, spleen, pancreas, uterus, ovary and so on—whilst from childhood to old age—

Mr. Little Old Appendix, in ambush all the time,

Keeps his finger on the trigger that may make your life sublime.

In old age—for those few who reach there, as if hungry for its prey, there lies in wait the troubles of the prostate, with hypertrophies, dystrophies, atrophies and degenerations of all kinds—not excepting those of the brain, now growing useless to the lambent soul within; and here we will leave the human organism as Shakespeare describes him: "Sans teeth, sans eyes, sans taste, sans everything."

Now, to meet the onslaughts of so many varied and powerful antagonists, let us consider what the human organism can do to maintain peace and avoid destruction. To be brief, for the subject in detail is well nigh inexhaustible: (1) The first and most powerful defender of the human realm is the big policeman—Mr. Vis Medicatrix Naturae, and were it not for his able and efficient administration of internal economies and life—processes, the incompetency of the medical profession and other second lines of defence, would soon be thoroughly demonstrated. The existence of this guardian of human welfare has been known for centuries, but it is only of late years that we are learning something of his weapons and methods of defence—such as the functions of internal secretions, the process of leucocytosis, thermic regulation, elimination, and antitoxin-formation by the blood. Unfortunately, this great protector of the organism has also been the screen under which all manner of "pathies"

and "isms" have flourished, and formed themselves into cults and basically wrong schools of Medicine.

Of ulterior methods of defence we should have: (1) A constant raising of the standards of the medical profession with a greater dissemination of the benefits of specialization. A right move in this direction has been the formation of the American College of Surgeons which, though it may for a time, work some discriminating hardships on numerous surgeons of excellent ability, will ultimately, prove of great and lasting benefit.

(2) We should give the human organism a clean heredity, by legislation controlling marriages, and permitting the asexualization of the manifestly degenerate. But better still, would be a propaganda of education, beginning in the school-room and based on the biblical injunction—"Know Thyself."

(3) Utilizing and improving upon every existing measure of child protection and social reform, from Fresh Air Funds and the prohibition of exhausting child-labor, to sanitary housing, playgrounds for old and young, social centers more attractive than the saloon, and popular education on vital subjects by the "lectured" moving picture show.

(4) The greater prominence attached to the full-time Health Officer whose work in the school-room and in matters of sanitation is not yet half appreciated and who should be amongst the best paid and most respected of our citizens. The functions of this office should be enlarged, so that the poor especially could have opportunity at any time, in sickness or in health, for adequate instruction in preventive measures and competent diagnosis of diseased conditions, with recommendations to the proper therapists for care and treatment.

(5) The employment of all legitimate means of exploiting the truth regarding fake medical nostrums from "oxydonor" tin-tubes to Christian Science adumbrations of the spirit—which latter cult with its ostrich-like head-in-the-sand nescience, never seems to recognize the limitations of the basic centuries-old-fact, that faith and a cheerful spirit are but factors and not always essential in numberless therapeutic measures that are positively indispensable.

Before closing I am tempted here to draw an analogy between the attempts of the various fluids, organs and tissues of the human organism, to maintain a stable equilibrium—which means peace, and the semi-conscious

strivings of the various races, nations and governments to attain the same thing amongst themselves, viz. peace or harmony or social equilibrium.

Though spasmodic experiences of peace on earth and good-will to men, have demonstrated to all the great desirability of such a condition, the enemies of such an idealistic state are numerous and a few may be mentioned as follows:

First—One of the greatest enemies of peace on earth is *prejudice*, i. e., prejudice of race, religion or nationality. When a Caucasian for instance, is brought suddenly into contact with another man of a different ethnological group, such as a Malay, Negro, Indian, Chinese or Japanese—unlikeable differences in physical appearance, manners, customs and methods of government are quite sufficient when emphasized in conflicting interests to provoke enmities or even war. It is the same with religious faiths—for as each expects to gain everlasting rewards through the exercise of his particular faith, he is naturally at variance with the other fellow who says he has the only authorized road to heaven. By the same token, religious sects of the same faith, who may differ on matters undemonstrable—and therefore unessential—often act as disturbers of the peace of communities, if not of nations. Amongst nationalities, as has frequently occurred in the past, as well as at present, a nation may assert its self-believed dominancy and try to inflict its own self-asserted superiority of "Kultur" upon a people, a continent or a world if need be, while at the same time, it is not averse to a few items of indemnity, colonial expansion, extra-territorial rights and so on.

Second—As a provocative cause of envy, malice, jealousy and hate—and therefore of enmity—is Mammon-worshipping, or desire for great wealth, which is limited to no one nation or individual, but possessed in varying degrees by all, is perhaps one of the greatest enemies of the peace of the world—for it breeds the festering sores of commercial jealousy and economic rivalry.

A third enemy to the world-harmony is the existence of a non-producing so-called nobility class—of barons, dukes, earls, princes, et. al.—generally possessed of great landed estates which should be owned by the people who work them. This privileged class or aristocracy seldom has any other occupation than that of military or governmental service, and when allied with its congener the plutocracy—we have a

combination that is very much interested in the production and maintenance of that other great menace to a state of social equilibrium—vast armaments on land and sea, under the sea, and latterly, in the air.

I would mention a fourth great enemy to the peace of nations and that is—oligarchical forms of government—with one-man controlling power, be he czar, emperor, king or chief of a savage tribe, and it is quite conceivable how the personal ambitions, envies and petty jealousies of these autocrats, might disturb the peace of the world under pretexts quite plausible to the countries they govern. A precedent of this kind can be cited—for a king of France once received a good trouncing for sending to the king of England a set of tennis balls with a hint that such a game was better suited to his prowess than the stern game of war.

Now, with all these formidable adversaries and age-long antagonists to the comity of nations, who is he—and where can be found that wonderful being—who from the alchemy of thought can devise a remedy that will purge the world of all its vast uncleanness, and restore and maintain its numerous and diversified component parts, in a state of health which is peace, which is social equilibrium?

One great statesman might fight for national disarmament as the only effectual panacea; another bright mind might plead for a greater toleration of religious thought and respect for the manners and customs of others; still another man might offer socialism as the sovereign remedy, while some one else might be content with the universal establishment of democracies. The latest proposed specific for all these ills of the body-politic, is the federation of all countries under one central government, with a system of international police.

Aye, you will hear these and a hundred other remedies prescribed as specifics for this great malady of the times, but let me venture to assert to you, my co-workers in a noble profession, that all will act but as placebos for an undiagnosed condition, for this is a disease of the head and not of the heart; the heart of the world is all right—but its head has gone a-maundering after false gods and false ideals; like the vix medicatrix naturae in the human organism, the sovereign remedy is ready at hand in the mind of man himself, and never shall we find on earth that peace which the world desireth, until, in perfect unison, the nations of this benumbed sphere acknowledge the authority and obey the mandate of the Great Physi-

cian—the Prince of Peace—when He said unto them—

“LOVE YE ONE ANOTHER.”

Room 209 Savings Bank Bldg., Marquette, Michigan.

THE FIELD OF LOCAL ANESTHESIA IN A WAR HOSPITAL.

LOUIS J. HIRSCHMAN, Major M.C., U.S.A.
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Among the many interesting surgical methods revived and elaborated through the stress of military needs, the employment of local anesthesia has been of great value in the surgery performed in a military hospital.

Base Hospital 17, Harper Hospital unit of Detroit, was located in a city of 130,000 inhabitants. This city was a great railroad center and was on the direct line traversed by many of the American Expeditionary Forces in going to and from the front. Many thousand troops were encamped in the vicinity of this hospital, and among those freshly arrived from the U. S. A., it was not at all infrequent to find cases of hernia, rectal diseases, abscesses and other conditions met with in civil practice. The prevalence of coughs, colds and pulmonary diseases in France, and the susceptibility of the freshly arrived American troops to the same, made the employment of general anesthesia impossible in many cases requiring surgical measures for their relief.

For years the writer has been employing local anesthesia in the treatment of diseases of the rectum and anus, as well as in the radical treatment of hernia. On account of its many manifest advantages over general anesthesia, it had been used in suitable cases as the anesthetic of choice in civil practice. In a war hospital where expedition in the handling of surgical cases, minimized hospital confinement, and early return to duty were of prime importance, anything which would hasten the desired ends, was of distinct benefit. Added to this was the prevention of the great danger of post-anesthetic complications, involving the lungs and kidneys, as well as the fact that on account of the absence of post operative vomiting, the patient's nutrition could be built up so much sooner. Another important advantage is the fact that the anesthetist can be dispensed with. This releases a medical officer for other more important duties. An operation under local anesthesia can be performed more rapidly than in the time allowed for the

administering of a general anesthetic and of performing an operation together. This meant more surgical operations could be performed in the same length of time.

In addition to the surgical procedures mentioned above, many operations on the scalp and skull, rib resections, amputations of fingers, and secondary suture of wounds of considerable extent, excision of infected wounds, operations for phimosis, varicocele and bubo were performed readily under local anesthesia.

In the author's surgical service, the average time required for an operation for inguinal hernia was seldom over twenty-five minutes. Five or six rectal operations were performed in one hour and the average secondary suture required about the same time. Rib resections were completed in fifteen minutes and colostomies and the operation for appendicular abscess were performed in fifteen minutes.

The employment of a hypnotic before operations under local anesthesia is of prime importance. The administration of twenty grains of chloralhydrate one hour before operating, or of a quarter or third of a grain of morphine one-half hour before operating was the author's usual practice.

The patient would come to the operating room in a quiet tranquil frame of mind. His ears were muffled with cotton and a towel placed over his eyes and all unnecessary noises and conversation eliminated. If however, a patient wishes to converse with the operator, he was allowed to do so, and oftentimes the operation took on more of the character of a social visit, than that of a surgical procedure. Patients would leave the operating room smoking cigarettes and would go back to their wards cheering up the patients who were to follow.

The absence of after-pain was a very pleasant feature of the employment of local anesthesia. The solution used was one quarter of one per cent. novocain to each ounce of which was added six drops of solution of adrenalin chloride. It is of the greatest importance to use sufficient solution to secure pressure anesthesia and important nerves such as the ilio-inguinal in hernia should be well blocked by perineural infiltration.

Any of the operative measures used under general anesthesia in the treatment of hernia can be just as well employed under local. The average time required for the hospitalization of a hernia case where local anesthesia was employed in its cure was reduced one week. The value of this saving of time in military life is

of great importance and in civil life, it should be equally so.

Sepsis was practically unheard of, in fact did not occur as often as in cases operated under general anesthetic, which the author believes is due to the fact that there is less handling of the tissues under local than under general anesthesia.

In rectal surgery, it is unnecessary to dilate the sphincter. The employment of local anesthesia by its relaxation of the sphincter allows a better field for operative measures than the divulsed and damaged sphincter of the old regime.

Moreover the patient in most of the cases is allowed to be up and about after the first twenty-four hours. Convalescence and an early return to military duty is hastened. Patients after most operations performed under local anesthesia, seem to vie with one another in the speed with which they could be returned to duty.

In the surgical treatment of war casualties, the removal of foreign bodies, such as machine-gun bullets and shell fragments was very easily accomplished. The most suitable cases were those in which localization by the X-ray demonstrated the presence of foreign bodies in the soft structures and not embedded in bone.

Suturing of lacerated wounds, particularly of the scalp was a very favorable operation under local anesthesia. Debridement, or the excision of devitalized tissue in a wound, could be done surprisingly well, provided the wound was not too extensive or involved too much muscle. Secondary suture of superficial wounds was an ideal procedure under local anesthesia.

To recapitulate, any operative procedure which can be done just as thoroughly under local anesthesia as under general anesthesia, should be performed for the following reasons:

1. It is safer.
2. It can be performed more rapidly.
3. Shock is absent.
4. Fewer assistants are required.
5. After-pain is absent.
6. Patients can take nourishment immediately.
7. Recovery is hastened.
8. Convalescence is shortened.
9. There is no fear of anesthesia.
10. Less handling of the tissues means less danger from sepsis.
11. The mental attitude is better toward

local than general anesthesia, which materially assists in his convalescence, and in a ward is reflected on his fellow patients.

12. Post anesthetic complications are absent.

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A CASE OF CONGENITAL PTOSIS.

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Malformations and failures in development are frequently observed in a clinic or hospital for children. While they are always of interest, it is unfortunate that we can not do more to remedy them. Dr. La Ferte has spoken of the various forms of spina bifida that he has encountered at the Children's Free Hospital. I wish to present a little patient who exhibits a failure of development in that she is unable to elevate the upper eye-lids sufficiently. The lids droop and she has a sleepy expression. Vision is interfered with, for while the pupil lies in the palpebral space when she looks downward it is covered by the lid when she looks upward.

The condition is designated congenital ptosis and results from lack of development of the levator muscles. Unlike acquired ptosis, resulting from paralysis of the third nerve, both eyes are usually affected. Sometimes a few fibers of the levator muscles are apparently present for the eye-lids can be partially raised by them but in this case I have not been able to demonstrate any action by the muscles.

Very early in life children with congenital ptosis learn to use the frontalis muscle to partially open the eyes. By contraction of this muscle the eye-brows are raised and with them to a varying extent the lids. Therefore one observes skin-folds on the foreheads of these patients. Moreover if the head is tipped backward while the patient looks downward the pupil is not covered by the lid and relatively high objects can be seen.

I have performed the so-called Hess operation on the right upper lid in this case. An incision was made along the entire length of the eye-brow. The skin of the upper lid was dissected loose to the lid-margin. Three doubled-needled sutures were then introduced through the lid near the lid-margin and were brought out through the skin of the forehead a few centimeters above the brow where they were tied over gauze rolls. The original in-

cision was then closed. The sutures were left in place for two weeks. The aim of the operation is to cause a growth of connective tissue along the threads and form tendinous outshoots from the frontalis to the skin of the lid thus reinforcing the action of that muscle. Moreover the lid may be slightly folded and shortened.

In this case I have not been successful in

producing a fold but you will note that the patient when she tries, is able to open the right eye much wider than the left. I am told by her sister that she no longer tips her head backward when looking at objects but is able to see them through the increased frontalis action. The operation has therefore helped matters and one can feel encouraged to try the same procedure on the other side.

Jerusalem. (By Mail)—How American Red Cross physicians engaged in relief work here are accomplishing worth while results in the face of great difficulties—and what they are up against, is shown in a report just received here from W. S. Dodd, A.R.C. doctor, working at Mejdel in this section.

With two capable English trained nurses, and three native helpers, more or less useful Dr. Dodd, his "hospital" housed under tents, performed 252 operations in seven weeks, besides giving medical examinations, treatment and counsel to hundreds of the destitute inhabitants and refugees.

His report says in part: "The work of the Hospital was of the plainest sort, it might be called primitive. About twenty-five tents comprised the Hospital proper, with a Dispensary tent, and tents for the living quarters of the staff.

The soil was all the purest sea-sand with thistles and scant grass; going barefoot was the universal custom, and in our own quarters we of the staff used to follow that custom with great pleasure. * * *

"The professional side of the work was of the greatest interest to me and every day was a pleasure: The clinics numbered sixty to a hundred a day. Of course we had all classes of cases in medicine and general surgery, but by far the larger proportion of our patients were eye-cases.

"Of the 252 operations that I did in less than seven weeks, 222 were for the eyes. This is the number of persons operated on, most of them having more than one operation, perhaps on all four lids, so that I really operated on 408 eyes.

"There were some cataracts, not more than would be seen in the same number of cases elsewhere, but Trachoma and its consequences accounts for almost all of the eye troubles in this land. I set out to treat cases radically and secured fine results when I could keep the patients long enough for a reasonable after-treatment. But even so, the number of eyes that can be saved from partial and total blindness is large and the economic value of each eye thus saved is enough to make the prosecution of this line of work of the greatest importance for the redemption of the land.

"The accident cases are always interesting. I had the last end of treatment of some cases of bombed hands, of which there had been quite a number in the earlier days. These were largely in children, and were due to their picking up unexploded Turkish bombs that were lying in the fields

from the time of the British advance in the Gaza region. Many fingers and even hands were lost from this cause.

"Vermin was the great enemy we had to fight. Fleas were hardly counted as a problem because we could do nothing against them, they were everywhere and inevitable, and so far as we know at present not being the carriers of any special disease, did not come within the hostility of a medical conscience.

"Lice and maggots were a daily terror. How many wounds and injuries came to us filled with maggots I can not tell. A favorite dressing for a wound is a piece of raw meat, a breeding place for maggots, and they can hardly be blamed for invading the adjoining premises.

Many a child had to be put under chloroform in order to search out and pull from their hiding places deep in the middle ear a half dozen wriggling maggots whose every motion was causing torture to the innocent victim.

"A woman came to the clinic complaining of headache. A single sore on her face lead to questioning, and when she rather unwillingly undid her turban we found an exaggerated case of impetigo, and every separate sore was as if the whole thickness of the scalp down to the bone had been punched out, and every sore was a nest of maggots. I removed 60 at the first seance, and at the first dressing next day the nurse had more to do. The headache was cured without further treatment. And these are not the most loathsome cases that we saw.

"Another great difficulty with which we had to contend was the filthy habits of the people. In spite of providing proper sanitary facilities, we were compelled to have a scavenger go around every morning and clean up the filth from around the tents of the patients. The women were as bad offenders as the men. We made it a rule that anyone known to have violated these simple sanitary regulations must go without their dinner next day, and this was quite an effective punishment."

During November the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

National Pathological Laboratories: Rabies Vaccine (Harris).

Schering and Glatz: Creosote Carbonate, S. and G. Guaiacol Carbonate, S. and G.

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, May 1, 1918

The President, JAMES G. VAN ZWALUWENBURG, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

A NOTE CONCERNING THE EPIDEMIOLOGY AND TREATMENT OF AMEBIC DYSENTERY WITH A REPORT OF TWO CASES.

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Amebic dysentery has in the past been reported and discussed in this Clinic because of the apparent rarity of the condition in these latitudes. At present such is no longer the conception, but conditions abroad, which will sooner or later be brought home to us, warrant a review and make a discussion distinctly worth while just at this time.

The troops from the tropics are carrying their flora of animal parasites with them to the lines in France, and the spread of the infections is especially favored by the intimate relations and exigencies of camp and trench life. England has already reported the inevitable effects; great numbers of British soldiers have become infected, consequently incapacitated and sent home for convalescence. At this point the problem has begun to assume a position of unusual importance, for the ordinary limits of the geographical distribution of the tropical diseases are being widely extended and not only the military, but the civilian population as well, is being threatened. Amebic dysentery is undoubtedly the most important, the most dangerous, and the most resistant to cure of the tropical parasitic conditions to which our soldiers will be exposed. It is of especial interest to us because of its, by no means infrequent, troublesome presence in our midst in the north temperate zone even under the ordinary conditions, in times of peace.

The recent occurrence of two cases of amebic

dysentery in this Clinic, brings up two questions of vital importance along the lines of public health for the future. The questions are, first, is the disease transmitted by carriers; and second, are there sporadic cases arising in the north temperate zones?

Extensive investigations by eminent parasitologists such as Craig (1) of the U. S. Army. Fantham (2) of the British Army and others have recently added many new and important ideas to our knowledge of the life history of the *entameba histolytica* and the mode of spread of the parasitic infection. The vitally important question of carriers of amebic dysentery was worked out conclusively by Walker (3), who found that by feeding the encysted forms of *entameba histolytica* to twenty men, he was successful in infecting eighteen; four of whom developed the typical dysentery, and the other fourteen became the so-called "contact carriers" of the organism. The amebae appeared in the stools on the average about six days after the ingestion. The term, "contact carriers," has thus been applied to those carriers who have never been affected with the disease, while the term "convalescent carriers," is applied to those who have recovered from the disease but continue to expell the cysts.

Dobell (4), Dale (5), Fantham (6), Imrie (7), Inman (8), Waddell (9), and others definitely demonstrated that carriers were responsible for the continuance of diarrhea among many of the soldiers for a long time after they had returned to England. The cysts were found in the stools of the convalescents as well as in the dysentery patients. Thus it stands a settled question with substantiating proof that there are "carriers" of amebic dysentery.

Low (10) reported very completely a case of amebic abscess of the liver in a patient who had

had no symptoms since his original attack twenty years before. Libman's cases also give long quiescent periods in their histories between the original attack and the liver abscess formation. Such evidence substantiates the supposition of long latent or quiescent periods in the diseases.

In collecting cases from the north temperate zone, we find Sanford (11) of the Mayo Clinic heading the list with 819 cases, 284 of which were due to *entameba coli*. These, together with Dock's (12) case and those of Walsh, Libman, Tuttle (13), Patterson (14), Rosenberger (15), total about 1,038 cases, 512 of which were due to *entameba coli*.

Thus 500 cases with three from our own Clinic, (12), (16), (17), (18), (19), of patients residing north of 40° latitude (Philadelphia), who had never been any further south and who had never consciously been exposed, are known to have had *entameba histolytica* dysentery. This is proof enough that amebic dysentery is not confined to the tropics but that sporadic cases are by no means uncommon in the north. In fact Axtell reported a case of amebic dysentery contracted in the arctics of Alaska. He had a patient who had been a mate on a government boat on the Tanana and Yukon river. In this case the man is supposed to have contracted amebic dysentery by drinking swamp or surface water in the spring of the year. The patient asserted, according to Axtell, that he knew of thirteen or fourteen others with the same trouble. Careful examination with the proctoscope showed amebic ulcerations in which *entameba coli* were found.

To reiterate and recapitulate, we know that there are carriers of amebic dysentery, that the infection can remain latent for long periods of time and that the disease arises indigenous in the north temperate zone. May it not be possible that the *entameba histolytica* is an obligative parasite rather than facultative or a saprophyte? That is, the carrier, the living animal body, is the factor in the epidemiology, and that the frequent repollution of the source, whatever it may be, is necessary for the spread of the disease. Along with this is the question of how long the infection can remain in a community after the departure of the animal carrier source.

Our present cases might fall in any one of these groups. The facts in the histories are such that they can not be clearly classified, assigned or fixed epidemiologically. But one of the classes must cover them. It makes but little difference under what head we place them.

No matter what the grouping, they are of importance to us now and may be more so in the future. If carriers with a latent infection, they are of especial interest, and if they are sporadic, indigenous cases, they are of just as great importance.

The present cases are the first that have been in the Clinic in two years and they entered within fourteen days of one another. They are both typical *entameba histolytica* dysentery cases and present many points of similarity. Both have been in Michigan for a considerable time, as I will definitely state presently. Both had been in the tropics at some time in their lives. Each had his present trouble or exacerbation begin in 1914, that is, four years ago, when in each case overwork, worry and nervousness precipitated the attacks, which have continued somewhat intermittently ever since. Both showed *entamebae histolytica* and *trichomonas intestinalis* in their stools of blood and mucus; and the blood pictures showed an eosinophilia.

The one had been in the U. S. Army for three years in the Black Mountain Expedition through New Mexico, Arizona and Utah in July and August, 1908, and then in Honolulu, Hawaii, ending in 1910, when he returned to Chicago and then to Michigan, where he has been ever since 1910. He had no intestinal disturbance while in the southern states or in Honolulu, nor did he have any until 1914 when his diarrhea suddenly came on. The question is, did he act as his own "carrier" retaining the latent cyst in his bowel for four years, or did he acquire his infection in Michigan; the former seems more rational.

The other, a Greek, had had the original attack of dysentery in Palestine in 1900. He recuperated after five months, went back to Greece and then came to this country. In 1908 he moved to Detroit where he has been for the last ten years. He had no intestinal disturbance after his original attack in 1900 until 1914 when his bloody diarrhea began. Here again the question is, did he act as his own "carrier" with the encysted organism in his bowel for fourteen years, or did he acquire his reinfection in Michigan. Here again the former seems the more rational, more so than in the first case.

The evidence is by no means conclusive, but there is quite a considerable pointing toward the long latent carrier idea in these cases. Two cases are not sufficient grounds from which to draw any conclusion. We can merely say

that the cases agree with the most recent ideas concerning the disease.

At any rate, whether carrier, latent contact or convalescent, or whether sporadic indigenous cases they should serve to put us on our guard that we may early solve the problem and prevent the maturation of a serious epidemic.

CASE 1. The first patient, Mr. P. B., age 29, a brakeman, married, American by birth, with his home at Port Huron, Michigan, since 1910, that is, for the past eight years, entered the University Hospital, May 3, 1918, complaining of a bloody diarrhea with very frequent stools, weakness and general run down condition. He had had closely intermittent and recurrent attacks of diarrhea for about three and one-half years, that is, since the summer of 1914. His family and personal history are negative. He had been in the U. S. Army and had been in the Black Mountain expedition through New Mexico, Arizona and Utah in July and August, 1908. During this expedition the water was very poor, being green "alkali" surface water with a bitter taste. He was stationed in Honolulu, Hawaii, until 1910, that is, eight years previous to his entrance. There was no dysentery during the southern expedition or in the island just at that time and there were no cases in the post hospitals. He was never in the hospital a day.

His present illness began some three and one-half years ago, late in the summer of 1914, when his bowels suddenly became "loose." At this time he was doing hard work and hurriedly eating very heavy meals. There was a certain nervous tension about the "braking" on the local freight train. This combination precipitated the attack. He had no nausea or vomiting after eating. He had about ten or twelve stools per day and each stool contained considerable blood and mucus. He had to quit work and go to bed for about ten days. Salt water injection did him very little good. He did not improve to any great degree, but went back to work anyhow. He would have fair days and bad days. One year later, in 1915, his rectum was examined and he was told that he had ulcers in the lower bowel. These ulcers were examined by the physician for amebae but none were found. Nevertheless he was given thirty hypodermic injections of emetine and was somewhat improved. The ulcers in his rectum were pronounced healed. Then about two years ago, that is, in 1916, his condition recurred, the diarrhea slowly becoming worse. He dieted without relief. He has worked right along, taking off three to four days each month in which to recuperate. At times his condition has been very severe. He has passed as high as eight stools per hour. He has always been a thin individual, nevertheless he has lost fifteen pounds in the last three and one-half years. His stools always contained blood and mucus while he was having a diarrhea. His appetite has been capricious.

The physical examination was negative except for tenderness over the splenic flexure and the descendens. Proctoscopic examination of his rectum showed no ulcers, but a redundancy of the mucous membrane (prolapsus recti) was noticed.

X-ray examination showed only a hypermotility of the large bowel. The barium enema showed a descendens that was distinctly wider than normal and also considerable gas in the small bowel. The stools were watery, unformed, yellowish in color, and with some undigested food particles. There was macroscopically considerable blood and mucus. On microscopic examination swarms of trichomonas intestinalis and entamebae histolytica were found. On one occasion they were very actively motile but subsequently they were found quite sluggish. The organisms were found very motile on one occasion; they were large and on closer observation the ectoplasm and endoplasm could be differentiated, the nucleus was indistinct and many inclosed red blood cells were seen as inclusion bodies. The cells when quiescent were spherical, the ectosarc and endosarc were not so well defined, but the nucleus was more easily seen as a small refractive body with a thick capsule. The patient had septic tonsils and a pharyngitis. The urine showed a few hyalin casts but no albumin. The blood examination showed a secondary anemia. There were 4,100,000 reds, 13,800 whites and 65 per cent. hemoglobin. A differential count showed 20 per cent. small lymphocytes; 5 per cent. large lymphocytes; 62 per cent. neutrophile polymorphonuclears and 10 per cent. eosinophiles. The blood Wassermann was negative; the blood pressure was normal.

The patient was placed in bed on a liquid diet and given calomel and salts. Then emetine hydrochloride, grs. $\frac{1}{2}$, was given hypodermically, one half hour before each meal. At these same times on an empty stomach, 20 grs. of ipecac in salol coated pills was administered by mouth. Thus the patient was receiving 60 grs. of ipecac per day along with $1\frac{1}{2}$ grs. of emetine. On the second day after treatment was begun, the stools were free from amebae and the dose of ipecac was reduced by 5 grs. on each subsequent day. The stools were reduced to three per day and the patient felt much improved and gained three pounds in three days on a liquid diet. He was then put on a soft diet. No blood or mucus was found in the stools after the fourth day and they became quite formed in character.

CASE 2. The second patient, Mr. E. N., age 42, a Ford factory machinist, married, a Greek by birth with his home in Detroit for the past ten years, entered the University Hospital May 17, 1918, complaining of bloody diarrhea, frequent stools and loss of strength. He has had the trouble for four years, that is, since 1914, but it is worse at times. His family history is negative except that his first wife died five years ago of pulmonary tuberculosis. His personal history is negative except for incidents bearing on his present trouble. He went to Palestine about eighteen years ago, in 1900, a heavy, strong individual. Here he drank some water from a pool while he was working along a railroad. His trouble began insidiously with a gradually increasing diarrhea. His trouble lasted for about five months; he lost a great deal of weight and strength. A physician gave him some pills over an extended period and he was able to gain strength enough to return to Greece where he convalesced fairly rapidly. He never had less than five or six stools per day and frequently as many as fifteen during the attack. This gradually cleared up. He came

to America fourteen years ago, that is, in 1904, and has lived in Detroit for the past ten years, that is, since 1908.

His present exacerbation really began a little over four years ago, 1914. His wife had just died and left him with three children. He tried various worked day and night to provide for his children housekeepers but none was of any account. He and worried much over them. Then he married an Italian, who mistreated the step children. This worried the patient. Under the nervous strain his old trouble came on and he had from six to fifteen or more bloody mucous stools per day. He has never had any nausea or vomiting. He complains of a burning sensation in the rectum and anus on passing the stools. This has gradually become worse. His condition is always aggravated by taking alcoholic beverages, such as beer, wine and whiskey. He has lost about twenty-five pounds in weight in the last four years. He visited various physicians but was unable to get anything more than a temporary relief from their medication. No one else in the neighborhood is bothered with this same condition, so far as the patient knows. On entrance the patient was having six to twelve bloody mucous stools per day.

The physical examination was negative except for marked tenderness in the rectum. Proctoscopic examination showed many ulcerated areas about two inches from the anus. There was much mucus and blood in these multiple, small, round, roughly excavated spots. They were very sensitive to the touch, hyperemic and bled easily. There was some edema of the surrounding rectal wall. X-ray examination with a b̄rium enema showed nothing except that the sigmoid and rectum were very narrow. The stools were liquid, light brown in color and contained undigested fat and meat fibers. Microscopically there was considerable blood and mucus. On microscopic examination great numbers of trichomonas intestinalis and a few entamebae histolytica were found. These latter were occasionally found to be very active, corresponding exactly with those described under case one (1).

Urine showed a few hyalin and granular casts but no albumin.

The examination of the blood showed 4,200,000 red cells, 10,700 whites and 85 per cent. hemoglobin. The differential count of 100 cells showed 26 per cent. small lymphocytes, 3 per cent. large lymphocytes, 3 per cent. large mononuclears, 55 per cent. neutrophile polymorphonuclears and 13 per cent. eosinophile polymorphonuclears. The blood Wassermann was negative; the blood pressure was normal.

The patient was placed in bed and a liquid diet given. Calomel and salts were used to cleanse the bowel. The emetine hydrochloride, grs. $\frac{1}{2}$, was given hypodermically, $\frac{1}{2}$ hour before each meal. At bedtime 60 grs. of ipecac were given. This was repeated the next night. The stools were reduced to two or three per day on the third day with a liquid diet. The stools on the third day were free from blood and amebae. The pain in the rectum was markedly diminished.

Treatment.—Here again, we can not offer unassailable, tried, controlled and proven, orig-

inal therapeutic measures, but we can review the most recent approved methods and state our own course with the results. Rest in bed is agreed upon as important in the treatment of this condition. The quinine solution injections from 1 to 5,000 up to 1 to 500 are not used to-day as they were some years ago. (12).

An ingenious method of giving ipecac, in large doses, was devised and used in this Clinic some years ago. To prevent the nausea, caused by this drug, a duodenal tube was inserted and ipecac powder in doses as high as 120 grs. could be given through it directly into the intestines without any ill effects. (19).

Emetine hydrochloride then came into vogue and was given subcutaneously in $\frac{1}{2}$ gr. doses, three times a day, until about 18 grs. had been given. Recent work by English workers has shown us that we must not pin too much faith in the efficacy of emetine hydrochloride. Dobell, (21) at the Walton Hospital, has shown conclusively in a large series of cases that, of the cases treated with emetine hydrochloride, 70 per cent. relapse; and of these, all of which are refractive to further emetine hydrochloride treatment, practically everyone responded to emetine bismuth iodide by mouth. Dale, (8) Low (10) and others reported exactly the same efficiency for the drug.

The emetine bismuth iodide is given by Dobell (21) by mouth on a full stomach in 1 gr. cachets, three times a day until 36 grs. are given.

Dale (5) gives a course of 36 grs. by giving one 3 gr. salol coated pill of emetine bismuth iodide every night for twelve consecutive nights.

Low (10) warns, in a foot note, that it is essential that the drug be given as a powder in a gelatin capsule and not in a compressed form, as he has found the "stearetttes and keratin coated tabloids" passed in the feces, unchanged.

With all this evidence from reliable English sources where abundant numbers of cases have presented themselves, and where a great deal of excellent work has been done along this line, we are very much inclined to give these methods first place in our therapeutic list. Unfortunately we did not have the opportunity of giving these new measures a thorough trial.

We have had some success with our own combination régime. The patients were put to bed. The bowels were cleaned with calomel and salts and emetine hydrochloride, grs. $\frac{1}{2}$, was given three times a day subcutaneously. At the same time, 60 grs. of ipecac powder in salol

coated pills were given daily as a single dose before sleeping time in one case, and in divided doses of 20 grs. before meals in the other case. The ipecac was gradually reduced by 5 grs. per day and the emetine hydrochloride was stopped after ten days. Since both of our cases were chronic with probably partly healed ulcers and pockets in the colon mucosa and wall, which would lodge cysts of the entameba and protect them from action of a drug in the circulation alone, we resorted to the combination. This method of administration was quite satisfactory; the results were apparently excellent.

We feel that the main virtue of the modern treatment lies in the attack of the organism in the bowel itself where it is lodged. The active principle of the drug when brought to the parts by the circulation is not able to reach encysted forms which are buried in scar tissue or sloughing pockets in the colonic mucosa. We have accomplished both ends by the combination; the oral administration would strike from the lumen, while the subcutaneous injections made sure that beginning metastatic foci outside the alimentary canal would not escape medication.

The use of emetine bismuth iodide is said to make the subcutaneous injections unnecessary.

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A SIMPLE AND UNUSUAL OPERATION FOR PROLAPSE OF THE RECTUM.

HAROLD DEB. BARSS, M.D.

ANN ARBOR, MICHIGAN.

(From the Surgical Clinic, University Hospital, Ann Arbor, Michigan.)

This case is presented for your consideration to-night because in this one instance at least it suggests a possible remedy for a condition which has been rather troublesome to surgeons, prolapse of the rectum. If you consult surgical works for the treatment of this condition you will be struck with the multiplicity of procedures suggested. The very multiplicity indicates the search of the profession for a satisfactory method. For slight prolapse the cautery has been used; or a modified hemorrhoidectomy has been performed. A cuff of mucous membrane has been removed, as in the Whitehead operation for large internal hemorrhoids. Other men have advocated perineal incisions with plaiting of the rectal wall. The coccyx has been removed and the rectum drawn up and sutured to the sacrum. Intra-abdominal operations of rectal suspension or fixation have been devised. The method perhaps most successful here has been that in which from the perineum, a complete portion of the prolapsed gut is resected and the upper free edge then fastened to the anal margin.

These measures are all rather severe and many are very technical. In certain cases the patient has suffered so great a loss of blood that a major operation is almost contraindicated or if attempted is attended with considerable risk.

The method which I shall portray to-night is not original, but is one which I have never seen in print. It is possible that it has been tried by many others and discarded as impracticable. I learned of it accidentally a couple of years ago in conversation with a surgeon friend of mine. The statement was made that another surgeon of his acquaintance had performed it in a number of cases with unqualified success. The method is so surprisingly simple that one is apt to discount its value for this very reason. And yet because it is simple I hold that it is worth trying. If it works, we have accomplished a desired result with the minimum of risk and discomfort to the patient, and labor for the surgeon. If it fails, no harm has been done, and we have at all events given it the benefit of a trial.

CASE. W. W., age 54, registered at the University Hospital on November 27, 1917. His complaint was a severe diarrhea with blood and pus in the stool. The past history is not significant. The present trouble began in April, 1917, when he noticed a bearing down sensation in the rectum and soon there occurred a slight eversion of the mucosa. In the early summer a diarrhea developed which grew steadily worse until he began to have an evacuation every hour or two during the day and two or three times at night. There was bleeding and a mucopurulent discharge with the stool. Proctoscopic examination showed a very relaxed sphincter with hyperemia and ulceration of a very redundant mucosa. No prolapse developed at this examination. The patient was examined in the Medical Clinic for several days but no cause could be found for the diarrhea other than the hemorrhoids. He was then transferred for operation of the rectal condition. The hemoglobin was low. The patient had been losing weight. The blood pressure was 115. It seemed unwise to attempt any very radical operation on this man and yet something had to be done to stop this severe diarrhea and hemorrhage. On December 17, 1917, the patient was operated upon in the Surgical Clinic. When under the anesthetic, the prolapse appeared and was found to be about three inches in length. The patient's condition did not warrant a protracted operation and it was decided to perform the following ridiculously simple one. The prolapse was replaced and then small puncture incisions were made about half an inch from the anal margin—one anteriorly, one posteriorly, and one on each side. Through these small cuts scissors were introduced and blunt dissection was conducted beneath the skin so as to connect each puncture, and thus make a complete subcutaneous ring around the anus. Through the anterior puncture silver wire (gauge 19) was threaded on each side, the two ends appearing through the posterior cut. The wire was

then drawn up and twisted so as to contract the anal opening to a size which would just admit freely the index finger. The ends were then twisted, the excess wire was cut and the ends were tucked beneath the skin. The punctures were so small that sutures were not needed. The wire was completely buried. A sterile pad was the only dressing applied.

Mr. W. was kept in bed on liquid diet for about ten days. For two days after the operation he had no bowel movement. Then three and again two. Following this there were several days without any defecation. After ten days he was given a diet with solid food and allowed to be about in a wheel chair. Then he began to have regular movements, averaging two to four a day, sometimes more and at times less. Chalk was administered in an attempt to decrease the diarrhea and it seemed to help. The patient was discharged five weeks after the operation. When discharged he was averaging one and two stools a day. There was no blood and less pus. The patient felt better and began to gain in weight. The prolapse did not re-appear.

Four months after his operation I wrote to the patient to learn of his condition. He wrote that he was improved in health as a result of the operation; the rectum had not protruded, and that he only had a diarrhea occasionally. There is a mucous discharge so that he still requires a pad. This is not surprising when we know how refractory colitis is.

This, then, is the operation and this the result in the one case in which I have seen it tried. I realize that one can not draw conclusions from a single case. I am not yet ready to say that it is surely of value, but I do believe that certain features are of worth. If it should prove in this and other cases to secure a lasting cure, it is eminently worth while, for it is so simple and without risk. It can be performed under local anesthetic if desired; and the whole operation will take but ten minutes.

Should it prove to be but temporary in the relief it affords, I still feel that it is worth a trial, for it is undoubtedly of value in securing a temporary reduction of the prolapse. Then the physician can treat with better hopes of success the ulcerative colitis and the attendant bloody dysentery. Then when the health and strength of the patient has been improved to the point where he can undertake a radical operation with a minimum of risk, it can be conducted with the maximum assurance of success.

This procedure is new, it is simple, it is untried. I submit it for your consideration as of possible value. I would like to learn the experience of others so that it may be adopted as of value or if necessary, thrown into the discard.

THE PRODUCTION OF CHRONIC NEPHRITIS THROUGH FEEDING HIGH PROTEIN DIETS.

A PRELIMINARY NOTE.

L. H. NEWBURGH, M.D.

ANN ARBOR, MICHIGAN.

(From the Medical Clinic, University Hospital, Ann Arbor, Michigan.)

The investigations which I am conducting aim to discover the usual cause of chronic nephritis. The kidney's biggest task is presumably the elimination of nitrogenous waste. Might not an excessive effort in this direction sufficiently prolonged end in a scar?

Rabbits fed an exclusive diet of coagulated egg white show albuminuria within three days and casts after a week.

Rabbits may be maintained on soy beans as the sole food for many months. This furnishes a diet containing 40 per cent. protein. Such animals show albuminuria and urinary casts after four or five weeks. The blood urea averages 100 mg. per 100 cc. blood. The kidneys of rabbits that have lived on soy beans for five or six months, present clear evidence of a progressive subacute or chronic nephritis. In addition to the epithelial injury and congestion, there is a diffuse, extensive increase in connective tissue.

More Misbranded Nostrums.—The following nostrums have been proceeded against under the Federal Food and Drugs Act: Baker's Tubercular Remedy, containing 11 per cent. alcohol by volume, sugars, potassium iodid, ammonium chlorid, glycerin, licorice, plant extractives, etc. Lee's Save the Baby Croup Specific, a liniment with a fatty oil base containing camphor, rosemary and thyme. Lee's Croup Mixture, containing over 70 per cent. of lard, about 7 per cent. alcohol, and over 18 per cent. volatile oils, consisting of a mixture of oils of rosemary and thyme and camphor. Twentieth Century, consisting of a powder and solution, the latter, essentially a mixture of water, glycerin, lead and zinc sulphates, acetates, nitrates, and a small quantity of perfume. Moreau's Soothing Wine of Anise, a syrup containing morphin acetate and alcohol, and flavored with anise. Professor C. E. Matthai's Victory, containing 49 per cent. alcohol, 1.2 grains of opium to the fluidounce, and 3.5 per cent. camphor and volatile oil, and small amounts of red pepper. Sensapersa, tablets containing asafetida, cannabis indica, and a drug containing a mydriatic alkaloid (*Jour. A.M.A.*, Nov. 9, 1918, p. 1601).

and a laxative drug resembling senna. Booth's Hyomei Dri-Ayr, consisting essentially of oil of eucalyptus, together with a small amount of resin-like solids and a mineral oil and a little alcohol. Hill's Kidney Kaskara Tablets, an iron oxid, sugar-coated tablet carrying emodin, caffein, acid resin, magnesium carbonate and talcum. Hancock Sulphur Compound, a calcium sulphid solution. Hancock Sulphur Compound Ointment, a petrolatum ointment containing sulphur, ash (chiefly lime) and phenol. Palmer's Skin Whitener, containing ammoniated mercury, mixed with a fatty base. Grossman's Specific Mixture, a balsam copaiba mixture (*Jour. A.M.A.*, Nov. 16, 1918, p. 1681).

Autolysin and Beer.—Henry Smith Williams, who exploits "Proteal Therapy," also runs a publishing concern, the Goodhue Company, and has associated with him his brother, Edward Huntington Williams. Some time ago, complimentary copies of a book, "Alcohol, Hygiene and Legislation," written by Edward Huntington Williams, and published by the Goodhue Company were sent broadcast to physicians with the compliments of author and publisher. The book championed the lighter alcoholic beverages and questioned the value of prohibition. Enclosed with the book was an advertising leaflet on the "Autolysin" cancer cure and a letter calling attention to a book by Henry Smith Williams on the Autolysin Treatment of Cancer. Now the secretary of United States Brewers' Association has testified before a Senate Committee, according to newspaper reports, that a "Dr. Edward H. Williams" was employed to write articles "relating to the brewers' trade." Is the Dr. Edward Huntington Williams who wrote "Alcohol, Hygiene and Legislation" the "Dr. Edward H. Williams" who was employed by the brewers to write propaganda favorable to the brewing interests? Was the cloth-bound book, "Alcohol, Hygiene and Legislation," paid for, wholly or in part, by the United States Brewers' Association (*Jour. A.M.A.*, Nov. 30, 1918, p. 1846)?

The following "Patent Medicines" have been declared misbranded under the U. S. Food and Drugs Act, and a "Notice of Judgment" giving an account of the prosecutions issued by the U. S. Department of Agriculture for each: Jacobs' Liver Salt, an effervescent preparation consisting largely of sodium phosphate, sodium sulphate, and sodium chlorid. Lydia Pinkham's Vegetable Compound, containing 17.9 per cent. alcohol, and 0.56 gm. of solids to each 100 c. c., with vegetable extractive material present. Maguire's Extract of Benne Plant and Catechu Compound, containing over 39 per cent. of alcohol and 1-10 grain of morphin to each fluidounce, besides camphor, catechu and peppermint. Hood's Sarsaparilla, a mixture of alcohol and water, containing about 0.9 per cent. of potassium iodid with sugar, vegetable extractives, which give indications of the presence of sarsaparilla, licorice,

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January

Editorials

TO THE COUNCILORS OF THE MICHIGAN STATE MEDICAL SOCIETY:

Dear Doctor:

The Medical Profession of Michigan responded most loyally to the call of our Country for volunteers. Hundreds of them are absent in the service but it is hoped that ere long very many may be returning to take their old places at home.

When they departed, we as a Society promised them that their home interests would be protected and their places kept. The time is soon coming when we must make good these promises. This can not be done without a complete and harmonious organization in each county of Michigan.

Owing to the absence of these men, and to the extra stress and strain of war times, upon the physicians remaining at home, many of our county societies have failed to have meetings and are now run down and unorganized. These conditions must not be allowed to continue. The work of reconstruction of organ-

ized medical forces in Michigan is upon us and our duty is plain.

I am now asking you as Councilor to immediately get in touch with each county society in your district, pull it together, see that elections are held and that 1919 starts off with every society and every member full of enthusiasm and days of hard work, so that when our absent members return they will have something to return to that is worth while, and that can and will make good the promises that we as organizations made to them when they went out to work and fight for us.

We shall hope and expect to have a good report from you of the organizational work done in your district, at the next meeting of the Council to be held in Detroit the latter part of January.

Get busy and you will have a Happy New Year—happy in the knowledge of duty well done.

Sincerely and fraternally yours,
ARTHUR M. HUME.

COUNCIL MEETING.

The regular annual meeting of the Council of the Michigan State Medical Society will be held at the Hotel Fort Shelby in Detroit on Tuesday, January 7th, at 9 a. m.

Signed, W. J. KAY, Chairman.

DUES.

The 1919 Society dues become payable January 1st. After April 1st, members whose dues have not been paid will be placed upon the suspended list.

Just at this time every one is busy, and the county secretaries are burdened with many duties demanding much of their time. So do not add to their burdens by causing them to take active steps to collect your dues. Send in your check now, lest you forget, and thereby lighten your secretary's work.

COMPULSORY HEALTH INSURANCE.
(D. Emmett Welsh.)

At the annual banquet of the Kent County Medical Society held at the Pantlind Hotel on March 22, 1916, Mr. F. Campau of the Manufacturers' Association read an extended article on the formation of a plan of insurance to be known as the Compulsory Health Insur-

ance. The benefits to be derived by the employer and the employee, and the greater efficiency of labor to the employee, and in turn the benefits that labor and its dependents would receive, and the important role physicians would play in its organization were fully dealt with. We were informed that different states had already made efforts in this direction, and that others were now so doing. Of the states in which effort was being made were Massachusetts, New York, Illinois, and California, and stress laid upon California on account of the governing influence in that direction. Eventually legislation would be demanded in this State and the physician would accept the same as it was bound to come. Soon thereafter it was noticed that our medical journals took up this subject and comments made upon the same, for and against it, filled their pages.

On April 17, 1917, this Society was favored by an address by Doctor Rubinow of New York upon this same subject and much useful information was obtained. We were informed that this was a purely philanthropic movement developed by some New York people to assist in the alleviation of the suffering of the working people. The strong appeal made for the poor working man, his unhealthful condition, his low wage, his insanitary surrounding which diminished his earning power for which health was so vital that a co-operation of the profession was deemed primarily essential for this work.

Our statute books have laws to cover almost every form of insurance, industrial, accident, health, invalidity and old age insurance; pensions for widows and orphans; trade unions, national and local; employer's organizations for benefit of employees; mutual societies, fraternal orders, local lodges, commercial companies operating for profits or on mutual principles, etc. The pros and cons of insurance present so many varying angles that the point of vital interest is the Compulsory Health Insurance to the physician is the angle to be viewed.

Social Insurance first developed in Germany and was put in form in 1883. Later other European governments adopted some form but in none of the plans has more gratuity been offered than that proposed by this Compulsory Health Insurance. These foreign countries are now in the throes of the resultant conditions from the above form of insurance. All political economists consider the health of an individual as the prime factor in economic wel-

fare. This plan of Compulsory Health Insurance must have originated in the gray matter of a conference of economic theorists.

The plan outlined for Compulsory Health Insurance is as follows:

The expense is to be defrayed by the employer, employee, and the State. The employer pays 40 per cent., the employee pays 40 per cent., and the State pays 20 per cent. The insured obtains cash benefits of two-thirds of his wage for twenty-six consecutive weeks if his earning wage is \$100.00 or less per month. He obtains free medical and surgical service, free medical and surgical supplies, free nursing attendance, funeral benefits, free dental work, maturity benefits, free medical and surgical attendance for dependents, and free medical and surgical supplies for dependents.

It occurred to the writer that there were other factors lying dormant for which this move was being made, and that the speaker was the forerunner for this propagandic socialistic work. To gain an idea of this purport the following interview took place:

How was the employer to obtain this?

By contract with the physician or a group of physicians, and the contracts were to be given to the lowest bidders.

Who was to decide the bidding?

A commission appointed by the Governor.

What constituted that committee?

Five members should constitute the committee.

Is the commission's work like your own work to be philanthropic?

No, they should devote their whole time to the work and should receive \$5,000.00 or \$6,000.00 per year.

I do not suppose Doctor Rubinow, that you would travel around the country out of pure philanthropy for the working man?

No, I am paid by these philanthropic people.

I suppose you receive at least \$6,000.00 for your work?

I would not do practice and do night work for that amount.

I might add here that this would cause an enormous expense in carrying on this beautiful philanthropy. Its primal aim which is now held up prominently would be pushed into the backgrounds, and its commercialism would be predominate and the individual would lose his identity and be unable to throw off the yoke of serfdom. It is the border line of radical socialism, a glaring attemptor in the destruction of medicine, a lowering of our standards, a re-

gression in our progress, a travesty on its science, a lowering of its morals and the high mortality rate among this class of people it intended to protect would be appalling, due to the inefficiency of the donor.

Doctor Rubinow said there was no doubt California would pass such a law. I wired the San Francisco Examiner and in answer was informed that it had failed to pass by a vote of three to one. The rural districts would not be affected but the industrial centers would be severely affected. In Grand Rapids, 70 per cent. at least would come under this law. What of the balance? What of the doctors who are not successful in their bidding? The incentive to study is increased by remuneration, and this applies to all kinds of trade. If all were satisfied with their little spheres, with no incentive to advance, we would become easy prey to decay of mind and body as the life of an organ is its use.

Let us analyze some of the work. I have been informed that one of the industrial surgeons had nearly five hundred accident cases alone during the past year. We can all form some idea of what amount of work this would entail. A married man with family according to the census enumerator is recorded as having four in the family. A factory employing a thousand men and allowing 500 of them to be single and 500 married would leave an attendance upon 2,500 people. An attendance of one visit annually upon them would mean 2,500 visits per year of 200 per month or practically seventeen visits per day. If we allow twenty minutes for each house call for examination and investigation, and that is a reasonably short time at the bedside, and fifteen minutes to go from house to house would require over eight hours of solid work. Then your office hours must be reckoned and for this alone one man would have to be on the job all the time. For this you must compete either singly or in group form. Your remuneration would be based on a ratio of the floor superintendent of an eight hour per working day. Your fee bill would be 25 or 50c per visit, office visits 25c, maternity cases about \$5.00. What would that mean? When an employee is compelled by such a plan to seek the services of a physician he does not want, your work is a failure. You lose your identity and individuality. You will be hampered by complaints of the foremen, bosses and workmen. You will be harassed by complaints that do not exist. Your services must be rendered as it is obtained for nothing. The malign-

er and sympathy seeker will be your steady office occupants, in fact you are nothing.

Compulsory Health Insurance is a vicious propaganda, a detriment to the profession, an economic disadvantage dividing society into a self supporting and contributory class on the one hand and a dependency upon the other.

COMMENTS.

Mr. J. S. Rowe, President, International Association C. & S. Underwriters says: Since it has been demonstrated that established insurance companies, subject to examination and regulation by State Insurance Departments, are better qualified financially and otherwise to act as administrators of compensation benefits, and to furnish efficient inspections for accident prevention, than is a politically-managed State fund, we feel that the open antagonism of labor organizations against insurance companies is due to lack of information and misapprehension on the part of the more sincere and intelligent labor leaders. In our opinion, the continued urging of exclusive State insurance schemes in resolutions adopted by labor conventions is being inspired solely by the professional politicians, who are making use of the so-called labor vote for the advancement of their own political fortunes.

Commissioner Cleary of Wisconsin says: The subject of social or welfare insurance is still a subject of much interest. It is now being considered by commissions in a number of states. The events of the past year have further convinced America that much that was commended in the German system has been thrown into greater relief, and, instead of its plan being a part of a great humanitarian policy, it was in reality a part of the scheme of militaristic and autocratic rule that has involved the world in its present deplorable condition.

Mr. John Sullivan of the Modern Woodmen of America in an article published in the National Underwriter says that "Social Insurance in principle, stripped of all fancy verbiage, says to the citizens having incomes below a fixed amount that they shall be in a class which the government will dictate to arbitrarily as to how they shall spend them, thus making these people wards of the government to whom contributions by other citizens shall be made. In other words the inference is that people below this dead line are incapable of managing their private affairs."

"The conditions of ill health and its causative factors can be best met by the medical profession. It is folly for economists to attempt to formulate acts to meet conditions with which they have the merest surface acquaintance. It is just as foolish for national or State medical societies to attempt to co-operate with groups of economists or labor leaders accepting as a foundation for their edifice the theories of those partially informed groups. Social insurance is too far-reaching in its influences and possibilities for harm to be applied to a great state for the purpose of proving or disapproving the theories of a group of men who merely expect that they can apply European methods to American conditions." By Henry L. Winter, M.D., Chairman of the N. Y. Medical Society Committee on Medical Economics, published in the May Journal of the Society.

From the Maine Medical Journal.

As physicians under the proposed law would get no more than \$2,000 a year, and many less, no well qualified men would take office. Nor should the laboring classes be thus imposed upon, by insuring them at a sum which would, on the whole, be much more yearly than they now pay for good medical services. Many corporations are now paying for the services of good physicians and skilled trained nurses, and to throw them all out of employment by any health insurance law would cause worse conditions of health than now prevail.

From the Journal of Commerce.

Never was the danger more serious of a further spread of socialistic doctrines, favorable to the worst form of paternalism and opposed to American conceptions of democracy and liberty, than at the present time. Perhaps the best concrete illustration of this menacing tendency towards paternalism and autocracy is the preposterous proposal for the establishment of compulsory health insurance, practically in precise conformity to the principles and methods of the German system inaugurated primarily as an assumed safeguard against the growing power of the Social Democratic party. The underlying reason for the propaganda in this country is not the needs of the people, but the needs of the propagandists themselves for self aggrandizement, for employment, for power and for opportunities to spread socialistic doctrines in any and every direction.

In an article from the National Underwriter Commissioner M. J. Cleary of Wisconsin says that a group of visionaries are endeavoring to

take advantage of the war situation and establish Compulsory Health Insurance, and that these people are now busy advancing the idea that many of the steps that have been taken as useful and necessary war measures are fixed and permanent policies of government.

From the National Underwriter.

State social insurance is paternal, socialistic and distinctly pro-German in character. Its workings are well illustrated by the thorough and complete enslavement of the German people through State insurance.

Mr. Edward F. McCrady, secretary of the Boston Central Labor Union, in an address said that he represented an organization of 82,000 workers which is opposed to compulsory health insurance. He said that this proposal to compel people to do something that they did not want to do was not American and was not in accord with our ideas of democracy.

Doctor Edward Ochsner, an eminent Chicago surgeon, at a meeting of the Vermillion County Medical Society at Danville, Illinois, in an address said: "If Compulsory Health Insurance is introduced into this country, autocracy will gain a firm foothold in the land of the free. It may come in the guise of democracy, but it will be autocracy nevertheless. My observation and experience in Europe, my study of monarchies and my life in this free country, have given me a passion for democracy—and my ideas on this question were fixed long before the war. The Germans are a great people—but not as great as in the days of Goethe, Schiller and Heine. Autocracy has produced mass efficiency at the cost of self-reliance, individualism and independence and in the terrific struggle in which the nations of the earth are now engaged, autocracy and mass efficiency must and will be crushed in order that democracy, individualism and independence may not perish.

Mr. Edson S. Lott said in an address before the American Association for the Advancement of Science that Compulsory Health Insurance was the newest advertisement of the reformer for revenue only, the latest device of some politicians to shine as philanthropists—while some one else pays for the lustre; both of whom are being aided by certain eminently respectable and altogether praiseworthy citizens.

From the Official Bulletin of the Chicago Medical Society.

Unsolicited and objectionable to those most interested. While organized labor, the employer of labor, the taxpayer, and the physician are

the ones most vitally interested in Compulsory Health Insurance, it is interesting to know that all these interests are unequivocally opposed to it.

The demand for this legislation has not come from representatives of labor, whether organized or not, but chiefly from those who are not the representatives of wage earners' interests. It is extremely significant that this movement, which primarily concerns wage earners and their dependents, should be strongly opposed by the American Federation of Labor.

We will show that the employer of labor, the taxpayer and the physician should oppose this measure.

Will Extend Medical Charity Abuse.

While it is claimed by its advocates that it will solve the question of the abuse of medical charity, on the contrary, we will be jumping out of the frying-pan into the fire, for it will substitute a worse form of abuse than the one we are trying to rid ourselves of.

Profession's Income Affected.

The point is made by the advocates of health insurance that the income of panel physicians will be increased. That is true, but it will be the least efficient doctors who will make the most money, and from the standpoint of the people, the service will be much deteriorated.

Destroy Personal Relationship Between Patient and Physician.

It would bring about compulsory medical attendance and do away with that personal and confidential relationship between doctor and patient, taking from the sick one that confidence, trust, and friendship which is such an important factor in the proper treatment of disease. It is this element which makes the practice of medicine a profession and not a business. It is not wholly the dose of medicine that cures the patient, but success is frequently in a considerable measure due to the confidence the patient has in the family physician. This feeling of confidence, trust and personal relationship between doctor and patient so essential in promoting restoration to health should not and must not be disturbed by legislation.

Villard says: "One of the saddest things to note since the adoption of the German social insurance is the change in the relationship existing between doctors and their workingmen patients."

Un-American and Subversive of American Ideals of Democratic Government.

The entire agitation is artificial and ill-advised. It is a scheme of paternalistic government of the rankest kind and antagonistic to the spirit of American institutions and the ideals of our democratic form of government.

The American people are not willing to change from individualists to paternalists.

Compulsory sickness insurance for workers is based upon the theory that they are unable to look after their own interests, and the State must interpose its authority and wisdom and assume the relationship of parent and guardian. There is something in the very suggestion of their relationship and this policy that is repugnant to free-born citizens, because it is at variance with our concepts of voluntary institutions and individual freedom.

To compel a citizen, against his will, to enter into an insurance contract and impose upon him the burden of paying the premium, in whole or in part, is un-American and dangerous to civil liberty.

A MAD WORLD.

Fear is the most prolific source of all evil. Of course, if fear were understood in its full metaphysical significance, it would be understood to be the provoking cause of all evil of every sort. But even from the ordinary point of view of the world, fear, when it communicates itself to numbers, is capable of causing greater disaster than any other phase of the human consciousness. The pagan philosophers realized that there was such a thing as the fear of fear; in other words, as they stated it, the fear of death was worse than death itself. Centuries later Shakespeare appropriated the idea, and put precisely the same sentiment into the mouth of Isabella, in "Measure for Measure," and, indeed, anyone who knows anything at all of history knows how disease was spread upon the wings of fear in the case of that awful visitation of the Fourteenth Century known as the Black Death, and again when a pestilence of a similar nature swept London, in the Seventeenth Century.

Some day the world will come to see that what it calls contagion is a mental contagion, and that what it calls infection is the infection of one mind from another. Orthodox medical practice today largely recognizes this, but it draws back from the logical consequences of its own admission, and endeavors to shelter itself in a half-way-house, which is

built partially out of mind and partially out of matter. Any person who has watched the ravages of such a disease as cholera in the East must know exactly what this means. The European sahib, going about doing his duty, and quite fearless of consequences, moves through the cholera camps with perfect immunity from the disease. But the native, stricken by this disease, lies down almost where he is overcome by it, whether in his house or by the roadside, convinced, in the suddenness of the shock and confusion of his fear, that the moment has come from which it is useless for him to attempt to escape.

In such conditions it is surely obvious that the sanest treatment is to do everything possible to destroy fear. Fear in a Christian community should be self condemned. Some nineteen centuries of reading the Johannine epistles should surely have effected this if Christendom is understanding what it reads. It is little to the point to say that fear is uncontrollable, for any person who has ever had anything to do with causes which produce fear knows that this is not the case. Probably every man who has made the sea his profession has been through periods of fear which he has had to overcome in order to gain that serenity in danger, without which he would be a liability instead of an asset on board his ship.

Practically every man who has ever been into action on land can tell you something of the sickening sensations of the first experience of battle. But as time goes on the veteran rises superior to the fears of the recruit, and daily takes his life in his hands with a calmness which shows that he has learned something at any rate of the dominion over fear. It is surely obvious, then, that in an hour of great fear, when the prevailing tone of the human mind, in the midst of the conflict of Armageddon, finds expression in an epidemic, that a Christian country should rather resort to its churches to relieve itself of its fears than close their doors so as to sound the top note of human agony in a belief that God's hand is so shortened that it can not save.

Let any person who has been brought in contact with the conditions of to-day ask himself frankly whether it is not fear which is playing such fearful havoc in the world. Everywhere men and women are afraid. Afraid in the areas of war of a storm blast that may at any moment strike over them; afraid within the orbit of the air squadrons, of the sound of the terrible engines whirring in the darkness overhead, and

of hearing the bombs explode all round; boys sleeping fearfully in the trenches, waiting for the summons in the gray morning to go over the top, and men and women sleeping in towns and villages, miles and thousands of miles away, fearful of what in that very moment may be happening to those whom they love; men and women at sea, waiting, as it were, for the explosion of torpedoes; or even men and women in immediate physical safety, wondering what effect the war is going to have on their incomes and their lives. A great fear has stricken the world, and it is little wonder if out of this fear there have emerged pestilences and diseases which have mounted on the winds of fear and scattered their seeds in every direction.

In such circumstances what would it be expected that a Christian community should do? Would it not, remembering the words of the Bible, that "perfect love casteth out fear," be to ask itself if there were not something amiss with its understanding of love which makes love powerless to overcome fear? And should it not naturally fling wider open the doors of its churches, confident that in doing right, by worshipping God, no ill could touch it? Have Christian countries so completely come to distrust the doctrines they profess, that the 91st Psalm is no longer a protection against fear and against disease, against pestilence and against war:—"He that dwelleth in the secret place of the Most High shall abide under the shadow of the Almighty. * * * There shall no evil befall thee, neither shall any plague come nigh thy dwelling." Yet, at the very moment when the churches should be filling the minds of the people with peace, and reassuring them of the impotency of evil, it is proposed that these churches shall be shut, and that the admission shall be made that it is dangerous for men and women to congregate to worship God, for fear the Lord's arm is so shortened that He can not contend with microbes. On the other hand, if people believe that God sends pestilence into the world, for the good of the world, what right have they to protect themselves against this pestilence, and to attempt by the drinking of drugs, by methods of segregation, or by any means at all, to prevent the anger of the Lord from taking effect. The very fact that all men and women endeavor to protect themselves against disease, at all times, is the proof, to any sane person, that in its heart the world does not believe that discord proceeds from Principle, that death comes out of Life, or that reprisals are the work of Love.

"The way," writes Mrs. Eddy, in a famous sentence on page 201 of *Science and Health*, "to extract error from mortal mind is to pour in truth through flood-tides of Love." Now not even the natural scientist will deny that the way to overcome any condition at all is to learn the truth about it. Until the truth has been learned a man fights with his hands tied behind him, or at the best like the boxer in the Greek games, who, Paul declared, beat the air. The Christian religion is perfectly clear on this point. Jesus of Nazareth himself declared, "Ye shall know the truth, and the truth shall make you free." If the truth will not free men from microbes, it will not free them for anything at all. Now it is perfectly certain that if the truth about Christianity exists anywhere, it exists in the Bible, and that one way to learn this truth is through the churches consecrated for the purpose of promulgating it, and not by closing their doors in token of their impotency. The church which closes its doors practically proclaims its impotency, and the admission is a terrible one when it is made in the hour of a nation's need. If the arm of the Lord is so shortened that He can not save, what is the good of the siren whistles to call people to prayer every day at midday? Is it to be supposed that the prayers for the success of Truth in the war will be more successful than the prayers in the churches for freedom from influenza? Let the siren shriek on week days, but the churches be closed on Sundays. Surely it was a wise man who once said, "A mad world, my masters!"

The above editorial from *The Christian Science Monitor* of October 8, is published by the Christian Scientists in order to help stem the tide of fear, which is the most serious factor in perpetuating the present epidemic. It is hoped that by recalling to the community the power of Christian prayer to stop the ravages of disease, the necessity of opening churches will be seen, and that their opening be demanded, thus proving that the facts do not belie the statement upon the coinage of the Nation: "In God We Trust."

"A MAD WORLD" MADE MORE MAD.

(By the Rev. Alfred W. Wishart.)

The Christian Science full page advertisement entitled "A Mad World" is as dangerous to the world's sanity as the microbes it ridicules are to the world's health.

It is an attack upon health laws and sanitary

regulations which will encourage the ignorance and superstition which have immensely afflicted mankind and which have impeded progress in mastering disease. It is a religious invitation to disregard health laws which should not pass unchallenged.

If Christian Science could induce the American people to give up doctors, close hospitals, repeal health laws and abandon their belief in small-pox, scarlet fever, diphtheria, influenza, typhoid, yellow fever and other diseases, it would do more damage than Germany could ever do. The medical department of the army and navy has accomplished marvels in keeping men well and in fighting disease. For one, I can not keep silent when this uphill struggle is represented as a silly fight against something that doesn't exist.

If beliefs in and fear of disease are causes of disease, why is this country not afflicted just now with yellow fever or smallpox or cholera instead of influenza, since we believe in all these diseases and fear them too, quite as much as influenza?

How does it happen that it is just now an influenza epidemic, since people were not thinking or fearing influenza when the epidemic started?

We believe in the reality of the grip as much in the years we were free of it as in the years of epidemics. Why did the epidemic of grip ever cease?

The advertisement says: "Now not even the natural scientist will deny that the way to overcome any condition at all, is to learn the truth about it. * * * Jesus of Nazareth himself declared, 'Ye shall know the truth and the truth shall make you free.' If the truth will not free men from microbes it will not free them from anything at all."

It would be discourteous, perhaps, to call this nonsense, so let us characterize it as illogical.

In the first place, "truth" and "free" are terms undefined. What kind of truth and freedom was Jesus talking about? There is the truth about stars, mathematics, microbes, a pair of shoes and man's relation to the Eternal. There is physical freedom, moral freedom and intellectual freedom. One might be free in dealing with geometry and a moral slave, while another might be an ignorant slave in geometry and morally free.

Consider the logic of the quotation. If we knew the truth about microbes, we would be free. Fear is the cause of disease. There are

no microbes, therefore the unafraid will not have the grip. Or perhaps, this was intended: The real truth about microbes is that they exist, but if you are not afraid of them, you will never have the grip.

Now, what is the truth about the grip or any germ disease? Are there or are there not, germs? Will the Bible answer that question? Was the truth Jesus meant the truth of microbes? If not, what right have we to use the authority of Jesus against the germ theory?

Again, granting that the truth about microbes will free men, waiving the question what that means, what is the truth about microbes? The Christian Scientists say they are either caused by fear or fear will free us from them. Their statement in the advertisement is not quite clear on that point.

It all amounts to this: that the absence of fear will prevent the grip or cure the grip. If it can do one it should the other. Here is unadulterated religious dogmatism asserting itself against the medical science of the world. The germ theory of disease is as firmly established as the principles of mathematics. To encourage people to disregard it is to endanger public health.

A bullet may kill a soldier whether he fears or not. What is the difference between bullets and microbes? Is not one as real and as deadly as the other? In fact, more die from microbes than bullets.

If Christian Scientists came out frankly and boldly and denied that bullets can kill, they would be consistent, but all the rest of the world would perceive the absurdity of their teaching. When they attack the germ theory of disease or deny that men are slain by microbes apart from fear, many are misled. None but relatively few scientific men have ever seen microbes or know anything about them. In all probability there is not a Christian Scientist in this city who has ever looked at a microbe through a microscope or who has ever given the germ theory or disease scientific study.

"The way to extract error from mortal mind is to pour in truth through the flood-tides of love." This quotation from Mrs. Eddy is about as much help to us in understanding influenza as "Science and Health" would be to a man falling 10,000 feet from an airplane.

Doctors make mistakes and people die in hospitals, for we are still in much ignorance concerning disease. There is bound to come a time when all human help fails, even "Science and Health" will not avail to keep Chris-

tian Scientists living on forever on this earth. But medical ignorance or blunders and the fact that a mind free from fear is of great value do not justify us in going to the other extreme by antagonizing public health regulations, throwing overboard the discoveries of medical science and attributing epidemics to fear.

Nobody with ordinary intelligence denies that freedom from fear on sea or on land, in the war zone where air raids occur or in the trenches under bombardment, is a great help. Neither is it denied that even in epidemics there should be no fear. Calmness and confidence are always desirable and useful in controlling disease. But the Christian Scientist makes use of these commonplace facts to support his dangerous religious theory of disease. He opposes proper precautions against disease. If his theory should prevail, this country would be swept by plagues and epidemics from one end to the other. If he is right, the battle against tuberculosis and venereal diseases is an irreligious recognition of evils that do not exist.

The seriousness of this assault upon established truth concerning disease may not be clearly recognized by many people. Undoubtedly it is provoked by the fact that Christian Scientists are compelled to obey health regulations the same as other people. Their hostility to medical science comes out sharply and clearly in an epidemic, but that same hostility is at work all the time in their propaganda against modern theories and treatment of disease.

The main question is not whether it was wise or unwise, necessary or unnecessary to close the churches. Back of all questions concerning the police powers of the State and of the value of any particular device to stay the ravages of disease is the primary issue raised by Christian Science.

Shall we look to the Christian Science church, the bible and "Science and Health" for our theory of disease and our protection against it, or shall we depend upon medical science? That is the real issue. That faith, prayer and a life regulated by certain lofty religious principles will promote health and restrict the ravages of disease in general needs no argument. We accept that view without question. But that biblical truth will teach us the nature of diseases or tell us how to combat them we most emphatically deny. There are a lot of unhealthy saints and more healthy sinners in this old world of ours.

If we abandoned all medical knowledge and

ceased all scientific efforts to cure or to prevent disease, we would soon be back to the physical conditions of the Middle Ages, or worse.

The only thing that saves Christian Scientists themselves in many cases from the afflictions of disease is the fact that they live in the light of advanced knowledge and under the protection of many laws and devices which promote good health. While their theory of disease takes them back to those times of ignorance at which God is said to have winked, they are spared intellectual retrogression at other points because they have incorporated into their teaching some of the truths respecting the relation of mental states to disease, discovered in modern times.

Their truths are the common property of all intelligent people. Their emphasis on these truths has no doubt been of great value to many, for which they are to be given all due credit. But all the good they have accomplished is no proof of the soundness of their theory of disease and, what is just now the issue, no justification for a propaganda against sanity in the treatment of devastating epidemics.

MICHIGAN'S PLAN FOR THE SUPPRESSION OF VENEREAL DISEASES.

(Under direction of the Michigan State Board of Health, Lansing, Michigan.)

Up to the time that the draft boards presented their unanswerable figures, it was not the custom for state health departments to concern themselves very deeply with the question of venereal disease. Combating "the social evil" was left, by common consent, to the various commendable, but inadequately financed, societies organized especially for that purpose. What the doctors knew, they were compelled to keep to themselves. And the average layman, schooled in the ancient art of shutting his eyes and ears at the slightest hint of sex, dreamed on.

The first draft sounded the reveille. Thanks to a wide-awake Governor and War Board, who furnished the necessary funds, Michigan was one of the first of the states to respond, and her subsequent record has maintained the reputation. Approximately a year has passed since the State Board of Health was empowered by the War Preparedness Board to put into operation a plan for venereal disease control. In November, 1917, syphilis and gonorrhea were declared to be dangerous communicable diseases, thus bringing them under the law re-

quiring reporting and quarantine. A brief resume of the development of the plan of campaign follows.

Patent Sex Remedies.—One of the first steps was to ask the co-operation of the pharmacists of the State to prevent counter prescribing for venereal disease. The State Pharmaceutical Association and the Rexall Association, comprising about ninety per cent. of the pharmacists in Michigan, met in joint session and pledged full support. The result is that the better drug stores refer customers to physicians instead of offering a patent medicine.

Reporting.—Physicians are given the choice of reporting by number, initial or name. In view of the fact that reporting syphilis and gonorrhea is an innovation, the response has been good, but there is still room for improvement. The reporting is obviously an important part of the whole plan and much depends upon its thoroughness. The records are kept absolutely confidential at the State Board of Health offices, and there is no interference in the treatment of private patients, and no publicity. Only when an individual is reported unguarded is any investigation made. The source of infection, where ascertainable, is also important, and often offers a fruitful field for investigation.

Special blanks have been provided for the reporting of venereal cases, and will be furnished promptly upon request.

Apprehending of Infected Persons.—The work of apprehending individuals reported a menace is largely carried out through the local police authority. Officials have been very co-operative in this regard. Any prostitute can be picked up on suspicion and held for forty-eight hours, pending a report on her Wassermann, and many internments have been made through these channels. The prostitute, obviously, forms the greater portion of quarantined cases, approximately seventy-five per cent. of women state venereal patients being self-admitted prostitutes.

Quarantine.—The choice of house or hospital quarantine is given. The advantages of the latter are so manifest that it is almost always chosen. In addition to the advantages, the brilliant hue of the quarantine placard and the extreme clearness of its message have a psychological effect.

Some provision had to be made for the quarantine and free treatment of individuals unable to pay for private care. It was decided to utilize existing hospitals rather than to establish new ones, and Detroit was the first city to offer

hospital beds. There are now, throughout the State, nine hospitals with a total of 321 beds, receiving interned State patients. The treatment given is uniform in all the hospitals.

In addition to medical care, each woman patient is given a psychopathic examination, and upon the results of physical, mental, and social histories, all after-care is based. The reports of the psychopathic tests are showing the close relation between subnormalities, prostitution and venereal disease. Averaging the State as a whole, eighty per cent. of the women patients are subnormal, twenty per cent. of these feeble-minded and in need of institutional care. The medical-social problem which such women offer is at the same time baffling and interesting.

Up to November 27, 1918, there were 1,134 patients, both men and women, treated in hospitals at State expense.

Clinics.—The value of the well organized clinic in a venereal disease campaign is fully appreciated. There are now seven city clinics and one hospital clinic giving treatments and the work will be extended. The clinic maintained in Battle Creek, under the State Board of Health, is proof of the practicability of the pay clinic.

Social Service Department.—Realizing that medical treatment of infected women was incomplete without supplementary social care to prevent an endless round of re-infections and to effect rehabilitation, a Social Service Department was organized early in the campaign. There are now thirty-two towns and counties equipped to handle the work, under a director at Lansing. The salaries of all these workers are, with one exception, paid by the communities in which they work, showing splendid co-operation.

The social work begins in the hospital. Occupational training and recreation are being installed in all of the hospitals, with the idea of furnishing some definite training to the interned women. Every woman State patient, upon release from a hospital, is given general supervision, employment found, living conditions looked after, the medical after-treatment supervised and rehabilitation attempted. Considering the difficulty of the social problem involved, the results thus far have been very encouraging.

Department of Education.—Realizing also that education is one of the best methods of prevention of venereal disease and that until an informed public opinion is back of the whole campaign there can be little hope of its perma-

nence, the Department of Education was organized. The work is being carried on through lecturers, pamphlets, exhibits, and posters, reaching group organizations. The prevention of venereal disease is the basis for the work, but it embraces the whole field of social hygiene. With public interest for the first time aroused, the opportunity for constructive educational work along this line is unlimited.

This, in brief, is the plan of the venereal disease campaign as it is being conducted by the Michigan State Board of Health. A plan of this sort must of necessity be a gradual development, rather than a superimposed and set program. The success of the work thus far and the need for its continuance is unquestioned. But the support of every physician in the State is necessary if the campaign is to be effective. This must be not only interested but active support. If every physician will take it upon himself to report all cases coming to his attention, together with the source of infection, to carefully instruct his own patients, and to do his utmost in the way of educating the people generally the movement will have much greater assurance of success.

A pamphlet entitled "The Michigan Plan for the Suppression of Venereal Diseases" prepared under the direction of The Michigan State Board of Health may be obtained by writing to the State Board of Health at Lansing, Mich.

THE MEDICAL PROFESSION AFTER THE WAR.

In April, 1917, our country called on the medical profession for volunteers for medical service. The response was both prompt and generous. Again and again the call came, and each time met similar prompt and generous response. Some 35,000 physicians have responded to these calls and are serving in the Army or in the Navy. In addition, about 25,000 physicians have given freely of their time and labor to work on Selective Service Boards, thus making possible that efficient, physically fit machine—the National Army.

It is too soon—the world, victorious and vanquished, too unsettled—to say what is coming and what it to be done. It is an hour in which nations are being made, unmade and remade. We hear, we talk, we read of reconstruction. The reconstruction problems are, in the main, twofold: one, the salvaging of mutilated humanity; the other, the reconstruction of devastated cities, towns and villages.

The former, the salvaging of the heroic remnants of war-worn men, is the more important. Our reconstruction problem as applied to the physical reconstruction of the disabled soldiers is certain not to be the gigantic task that it would have been had the war continued for a long period of time. There will, of course, be much to do in this regard; but this work is in competent hands and well provided for. Our reconstruction problem as it applies to the returning of more than 30,000 military physicians to civilian life is again not a problem of magnitude. The physician before he went to war was, in most instances, a man of home and family, and in most instances home, family, his professional confreres and the community wait to welcome him with honors.

However, our reconstruction problem as it concerns the relation of the physician to the great social problems that are to arise "after the war," is a problem of magnitude. One's senses are startled by phrases in the modern writings on social and economic subjects. One hears of "equalization of risk and return," of "conscription of wealth," of "health insurance," of "national ownership," of "state medicine," of a "league of nations," "international medical alliances," and similar conceptions. With these, and as a part of these, will be new problems of the relation of physicians to each other and to the public. Physicians will have as much influence as any other class in the weaving of the new social fabric. It is well to realize this and to appreciate the need of closer knitting together of the profession itself—of stronger organization—so that we may face these problems with the strength of many minds united. Thus the medical profession may be able, not only to secure the rights and recognition it merits, but also to have that real influence necessary for the best interests of the public health in the new order of things. The medical profession has served, it serves and it will continue to serve when called on, but in its altruism must not forget that the profession will have to guard its own rights and prerogatives if they are to be guarded at all.—*A.M.A. Jour.*, Nov., 1918.

Rabies Vaccine (Harris).—An antirabic vaccine standardized by the method of Dr. Harris and stored in vacuo. Each package contains vaccine and apparatus for the administration of one complete treatment. One dose is given daily for ten days or more. National Pathological Laboratories, Chicago (*Jour. A.M.A.*, Nov. 30, 1918, p. 1825).

Editorial Comments

The Seventh Conference of Industrial Physicians and Surgeons was held December 6th at the Bellevue-Stratford Hotel in Philadelphia, Pennsylvania.

NO MORE PHYSICIANS TO BE COMMISSIONED IN THE MEDICAL CORPS.

At ten o'clock on the morning of November 11th, the War Department discontinued the commissioning of physicians in the Medical Corps.

This condition, in all probability, is permanent and no further consideration will be given applicants for a commission in the Medical Corps until further notice.

The war is over; peace reigns on earth. But in Europe to-day there are more than 2,000,000 American soldiers, who took an important part in bringing the war to a victorious end, and these men must be fed and clothed for a long while to come. It is estimated by the War Department that the cost of equipping and maintaining an American soldier in Europe is \$423.27 a year.

The American army was transported to France at the rate of 250,000 men a month by giving them first call on the shipping facilities of the United States. If they could be brought back to their homes thus speedily—and it is doubtful that they could—it would require at least eight months. It is obvious, therefore, that we must continue to raise money with which to maintain our army abroad.

"We are going to have to finance peace for a while," said Secretary of the Treasury McAdoo, "just as we have had to finance war."

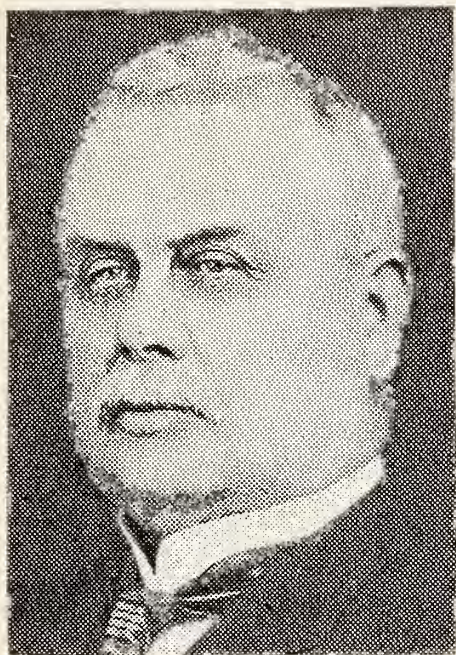
And that means that the American people, having supported four Liberty Loans with a patriotism which future historians will surely extol, are to be vouchsafed an opportunity to support our victorious peace. There will certainly be at least one more Government Loan. There probably will be two more—and possibly three. At any rate, the next Loan must be prepared for and its success made certain. Get ready now to buy more bonds.

Compound Solution of Cresol.—In an eastern institution where members of the U. S. hospital corps are being instructed, a bottle containing Liquor Cresolis Compositus is labeled "Lysol" so that doctors may recognize it. Comment is superfluous (*Jour. A.M.A.*, Nov. 30, 1918, p. 1830).

Deaths

Doctor Otto C. McDannell, of Lowell, Michigan, who has been a member of the Society since its organization, died November 20th at his home after a very short illness.

In his death there passes away another old time family doctor, of which type he was



DR. OTTO C. McDANNELL

typical. The family physician is passing away, one who in sickness and sorrow was their comfort and in whose pleasures and enjoyments they were an integral part. His life and acts were models in his community and were loved by all. How few remain!

Doctor McDannell was born in Keokuk, Iowa, June 5, 1844. At the age of 19 he finished the medical course at the Medical College in Keokuk, but on account of his age he did not receive at that time his diploma. He served as an assistant surgeon in the Union Army during the years 1863 and 1864, and after the Civil War he took a post-graduate course at the Rush Medical College at Chicago, and later served as an interne at Mercy Hospital. After remaining in Logansville, Wisconsin, where he began active practice but a short time he came to Lowell, Michigan, where he has practiced for a period of about fifty years.

The Doctor was one of the most prominent as well as one of the most loved citizens in that community. He was a member of the Congregational Society, served faithfully for many years on the Lowell School Board; served as a trustee of the village and also as its president;

was president of the Lowell Board of Trade; a member of the Masonic lodge, the Order of the Eastern Star, a Chapter Mason, a Knight Templar and a member of the Shrine.

He is survived by his widow, two daughters, and a host of friends who deeply mourn his death.

It is with regret that we record the death of **Doctor R. G. Marriner**, who died at his home in Menominee, Michigan, as a result of secondary pneumonia which was induced by fractured ribs sustained in a fall.

Dr. Marriner was born in London, England, on December 5th, 1857, and at the age of ten years came to the United States. His parents located in Chicago, and there he completed his academic education. He was matriculated in the Rush Medical College in 1876 and was graduated from the Chicago Medical College as a member of the class of 1881. After his graduation Doctor Marriner initiated the practice of his profession at Marinette, where he remained until 1888 when he moved to Menominee and had since practiced.

At the time of Doctor Marriner's death, he was City Health Officer at Menominee, and was prominently identified with the Masonic lodge.

The many friends and acquaintances of **Doctor John F. Dunwoody**, were shocked to hear of his death which took place October 20th at his home in Detroit, Michigan.

Doctor Dunwoody graduated from the Detroit College of Medicine in 1911 after which he served as interne at St. Mary's Hospital. He first located in Highland Park, and subsequently moved his office to Detroit. He is survived by a widow and two small children, besides his mother and sisters.

Doctor John C. Reynolds, of Battle Creek, Michigan, died at his home Wednesday, November 20th, of heart disease. He has long been a member of the State Society.

Doctor B. T. Philips, died at his home in Menominee, Michigan, November 29th, 1918, of infirmities due to his advanced age. The doctor had been in declining health for some time. On January 1st, 1916, he suffered a stroke of paralysis from which he never fully recovered.

Dr. Philips was born October 14th, 1840, in Wadsworth, Ohio, and at the age of five immigrated to Wisconsin. He served in the Second

Wisconsin Cavalry and with the 32nd Wisconsin Infantry during the Civil War. He graduated from the Rush Medical College of Chicago in 1870, after which he located in Fond du Lac, and in 1872 he moved to Menominee, Michigan.

Doctor Philips served as president of the Wisconsin State Medical Society in 1892. He has been surgeon for the C. & N. W. Ry., and for many years was surgeon of the Chicago, Milwaukee and St. Paul, and before that was surgeon for the Milwaukee, Northern Ry. Co. He was identified with the Masonic bodies of Menominee. He was a charter member of the Commandry of which he was second Eminent Commander, also of the Chapter and Aladdin Mystic Shrine. For sixteen years he was a member of the school board and was the first superintendent of schools that Menominee had.

The doctor is survived by his widow and one daughter.

Word has just been received of the death of **Doctor Harvey W. Smith**, of Carsonville, Michigan, at his home, November 17th, from pneumonia.

Doctor Smith graduated from the Toronto School of Medicine in 1880, and has been a member of the State Society for a number of years.

Doctor A. C. McCurdy, of Battle Creek, is the second member of our Society to pay the supreme sacrifice. According to word received by Mrs. McCurdy from the Adjutant General's office, Doctor McCurdy died November 28th, of a carbuncle on the face.

When Lieut Col. Case organized the Battle Creek ambulance corps, Doctor McCurdy was one of the physicians who immediately offered his services and was commissioned a lieutenant. Not long after the ambulance corps' arrival in Allentown, Lieutenant McCurdy was promoted to Captain and soon after Major, and was commanding officer of battalion 16. After training at Allentown, Major McCurdy landed at Genoa, Italy, and following the close of hostilities there he was sent to France. At the time of his death he was connected with the 33rd engineers in France.

Major McCurdy was born in Battle Creek in

June, 1886. He was educated in the Battle Creek Schools, and was a graduate of the University of Michigan. Previous to his entering the army, he had a large practice in Battle Creek as well as in the country districts and was well known throughout the county.



DR. A. C. MCCURDY.

Major McCurdy was a member of the Masonic Consistory, the Shriners, and the Elks. Besides his widow, Major McCurdy is survived by his mother, one sister, and one brother.

Mrs. H. J. Vandenberg, wife of Doctor H. J. Vandenberg, of Grand Rapids, Michigan, died December 10, 1918, at Blodgett Memorial Hospital.

Randolph Rogers, son of Doctor John R. Rogers, Grand Rapids, Michigan, is reported as having been killed in France on July 15, 1918.

A Short Sighted Druggist.—A correspondent writes: 'I went to a nearby drug store and asked for twenty-five cents' worth of Liquor Antisepticus Alkalinus; I got one ounce! The druggist charged me fifteen cents an ounce, and ten cents for the container. Next time I fear I shall be forced to get Glycothymoline!' To penalize a man who calls for an official product so as to drive him to ask for a "patent medicine" of the same general character is both poor pharmacy and bad business (*Jour. A.M.A.*, Nov. 23, 1918, p. 1745).

State News Notes

U. OF M. TO ASSIST IN NURSE TRAINING.

Will Be State Center for Public Health Work.

With a limitless demand in America and Europe for public health nurses during the reconstruction period and rehabilitation of soldiers and their families, the National Organization for Public Health Nursing and its war program committee, headquarters in Washington, is making every effort to meet this situation.

Nursing associations of Detroit and the State are planning to aid. A department of nursing and health will be established at the University of Michigan soon, to be the training center for all nurses in Michigan.

"The plan for the department at the university was made some time ago, but was abandoned temporarily," says Mrs. L. E. Gretter, superintendent of the Detroit Visiting Nurse Association and State chairman of the committee on Red Cross Nursing, "because the great number of nurses who had been called into the military service made it impossible to obtain trained directors."

Mrs. Gretter says the State committee will endeavor to place a public health nurse in every county.

The public health nurse cares for babies, for children at school, for men and women in industry, on farms or wherever they may be. By teaching she educates and protects against illness; she is nurse first, but friend and teacher as well.

The National Organization encourages the establishment of more courses for the graduate nurse who wishes to fit herself for special service. More is required than the nurse's regular training, because problems of applied economics and sociology must be met.

Secretary McAdoo, Surg.-Gen. Blue, the war department and other government agencies have been showered with letters from men and women all over the country who have "surecures" for influenza. Some are willing to spread their remedies broadcast for the benefit of humanity, others offer to supply the nostrums at so much a bottle or a person, and others express their willingness to be remunerated by the government. A physician offered to furnish his remedy at \$4.50 for each patient or to take a surgeon major's commission and pay.

Sulphur in the Shoes.

"Sprinkle a little sulphur in each shoe every morning," wrote one. Another advised a mixture of asafetida and whiskey. A man who lives "at the jumping off point in Western California says of his medicine, which is supposed to knock out germs, "I got it by combining wonderful essential oils that will penetrate the hardest wood that grows. The compound, while it is not a poison, will penetrate any and all kinds of germs or insects and dry or burn them up in a minute."

Recalling the statement that the influenza epidemic probably originated in the Orient, a woman advised an examination of all pepper and tobacco in the country.

The wearing of lavallieres of camphor or asafetida, set in gauze, has many advocates.

Commenting on these "sure cures" the public health report of the United States Public Health Service says:

"Comes also the mental scientist who regards the epidemic as engendered by fear." It quotes (source not given): "This sort of infectious suggestion is a crime against the public, is treason to our government, and the traitors responsible for it shall not be allowed to go unpunished."

Alleged "Cures" Harmful.

"The United States Public Health Service," the report continues, "urges the public to remember that there is as yet no specific cure for influenza and that many of the alleged 'cures' and remedies now being recommended by neighbors, nostrum venders and others do more harm than good. The chief reliance must be on fresh air, nutritious food, plenty of water, cheerful surroundings and good nursing. If any specific like a vaccine or serum is found to have value the Public Health Service will give the matter wide publicity."

The Anti-Tuberculosis Association is making arrangements for a special free tuberculosis clinic to be held in Jackson. The work will be in charge of Miss Charlotte Ludington, field nurse of the State Association, and Doctor E. R. Vander Slice, Medical Director of the Association. These will be assisted by local physicians and other health workers. The clinic will be held at the W. A. Foote Memorial Hospital.

Lieutenant William E. Wilson, of Grand Rapids, has been awarded a distinguished service medal for his splendid bravery under fire, and was also promoted to captaincy. Doctor Wilson was severely injured about the right knee as the result of a shell wound received in the Chateau-Thierry sector.

It is the opinion that tuberculosis in Michigan will increase as a result of the Spanish influenza epidemic. The influenza is breaking down general resistance to all kinds of infection, especially to tuberculosis.

Doctor C. C. Slemons, Health Officer at Grand Rapids, Michigan, was authorized by the City Commission to attend the national conference of the American Public Health Association held in Chicago during the second week of December.

Doctor L. M. Ryan, of Caro, has been appointed as Acting Assistant Surgeon of the United States Public Health Service, for duty in connection with the control of the influenza epidemic.

Doctor A. M. Martin, Grand Rapids, Michigan, has been commissioned a Captain and made Division Orthopedic Surgeon of the 32nd division with which he has been serving since the division went overseas.

Doctor Frank Marshall, of Pequaming, Michigan, who entered the army as a First Lieutenant in the Medical Corps in June, 1917, was promoted to Captain in France in September.

Wards of the Children's Aid Society and the Detroit Branch of the Michigan Children's Home So-

ciety are to be subjected to a program of health clinics.

The University of Michigan received \$5,000.00 from the State War Preparedness Board to use for a one year course in public health work.

Doctor Mabel E. Elliott, of Benton Harbor, has received notification of her assignment to the military hospital in France.

Doctor W. P. Morrill, of Benton Harbor, has been promoted from Major in the medical corps to a Lieutenant Colonel.

Doctor P. H. Quick, Secretary of the Eaton County Medical Society, is Surgeon of the S. A. T. C. unit at Olivet, Michigan.

Doctor Walter R. Hicks has been appointed Health Officer at Menominee, Michigan.

Doctor Ray S. Morrish, of Flint, has been promoted to rank of Major.

Doctor G. A. Fritch, of Detroit, has again been charged with mal-practice.

Doctor T. J. Carney has resigned as Local Health Officer at Alma, Michigan.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

BAY COUNTY

The annual meeting of the Bay County Medical Society was held Monday evening, December 9th, 1918. Doctor H. B. Morse, the retiring President gave a sumptuous banquet at the Wenona Hotel at 6:30 p. m., after which instead of the usual President's address he entertained the members present by reading some very interesting letters from the members in U. S. Service. These letters were replete with thrills of war and we all feel that they are having a great and wide experience.

The Secretary-Treasurer gave reports of the finances of both the Society and the Bay County Medical Society Patriotic Fund, having paid out \$1,572.00 to wives of members in service under rank of Captain.

The following officers were elected for the ensuing year: President, Doctor C. M. Swantek, Bay City; Vice-President, Doctor D. M. Dayton, Kawkawlin; Secretary-Treasurer, Doctor Morton Gallagher; Delegates, Doctor H. B. Morse, and Doctor Morton Gallagher, and Doctor C. H. Baker, and Doctor J. C. Grosjean as alternates; and Doctor T. A. Baird of Bay City as Medico-Legal Advisor.

CALHOUN COUNTY

The forty-second annual meeting of the Calhoun County Medical Society was held in the City Hall, Battle Creek, December 10. Lieut. Colonel Creighton, Lieut. Colonel Ernest Irons, Major Lynn F. Beals, and Captain Seward Erdman, all of Camp Custer were our guests. The program consisted of a Symposium on Influenza and Pneumonia, the first part of which was given by Major Beals, while Captain Erdman spoke on Complications from a Surgical Standpoint.

Various committee reports were heard, and the report of the Secretary-Treasurer for the past year. The election of officers occurred and the following were chosen:

President, Dr. H. A. Shurtleff, Marshall; Vice-President, Dr. C. S. Gorsline, Battle Creek; Secretary-Treasurer, Dr. A. F. Kingsley, Battle Creek.

The past year has been a very profitable one in many ways, and we were especially honored in that we were for the second time permitted to entertain the Michigan State Medical Society at its annual meeting. Our membership has remained practically the same, and not a single member was suspended for non-payment of dues. We believe this sets a record for a Society of one hundred members.

No banquet was given at this annual meeting, that function being deferred until later, when we hope to have with us some of our members who are now in military service.

Dr. John Smith, Dr. M. S. Vaughn and Dr. F. J. Gibson appointed a committee by the Jackson County Medical Society to draft resolutions on the death of Dr. James A. McQuillan, who was killed in action, have prepared the following:

Whereas: Divine providence has removed from our midst and membership, our honored colleague Dr. James A. McQuillan, who cheerfully and voluntarily responded to the call of his country during the most critical period of the war, and,

Whereas: By untiring effort and complete indifference to personal welfare and comfort he sacrificed himself through a desire to be of assistance to the United States and for the good of the cause, and,

Whereas his personality and memory will never die among those who were his friends and close associates therefore, be it resolved

That the Jackson County Medical Society realized the loss of a brave, noble, patriotic member and hereby expresses its sympathy to the bereaved wife and the mourning family of his parents, and instructs the Secretary of the Society to send a copy of this expression of deepest and heartfelt sympathy to both families.

EATON COUNTY

At the annual meeting of the Eaton County Medical Society which was held in Charlotte, December 5th, the following officers were elected: President, Doctor J. D. McEachran, Vermontville; Vice-President, Doctor C. B. Wasson, Bellevue; Secretary-Treasurer, Doctor Phil. H. Quick, Olivet; Delegate, Doctor F. R. Blanchard, Eaton Rapids.

After the election of officers, a timely and interesting program was carried out.

GENESEE COUNTY

At the meeting of the Genesee County Medical Society held November 9th the following officers were elected: President, Doctor C. H. O'Neil; Vice-President, Doctor C. D. Chapel; Secretary, Doctor D. D. Knapp; Treasurer, Doctor A. Patterson; Medico-Legal Officer, Doctor R. H. Niles; Member of the Board of Directors, Doctor Noah Bates; Delegate, Doctor Ed. Diamond, and alternate, Doctor A. H. Blakely.

Doctor A. H. Hume, of Owosso, Michigan, President of the Michigan State Medical Society, gave an interesting talk. Luncheon was served and it was noted that in future all food would be served in country style in accordance with the gastromic conditions of our worthy President.

GRAND TRAVERSE-LEELANAU COUNTY

At the regular meeting of the Grand Traverse-Leelanau County Medical Society held in Traverse City, December 2nd, 1918, the following officers were elected for the ensuing year: President, Doctor J. J. Brownson, Kingsley; Vice-President, Doctor Frank Holdworth, Traverse City; Secretary-Treasurer, Doctor H. V. Hendricks, Traverse City, Michigan. Doctor J. B. Martin, of Traverse City was elected a member of the Medico-Legal Committee.

INGHAM COUNTY

The annual meeting of the Ingham County Medical Society was held at the home of the retiring President, Doctor C. V. Russell.

The new elected offices are: President, Doctor John G. Rulison, Lansing; Vice-President, Doctor Fred M. Huntley, Lansing; Secretary-Treasurer, Doctor Earl I. Carr, Lansing.

Doctor and Mrs. Russell entertained the Society and their wives at dinner previous to the meeting.

JACKSON COUNTY

The annual meeting of the Jackson County Medical Society was held at the W. A. Foote Memorial Hospital, Thursday evening, December 5th, and the following officers were elected: Doctor Walter R. Snow, President; Doctor M. S. Vaughn, Vice-President; Doctor W. L. Finton, Secretary; Doctor L. J. Harris, Treasurer; Doctor F. Rose, Delegate, and Doctor F. W. Rogers, Alternate.

The Society paid a touching tribute to Doctor J. A. McQuillan who was killed in action in France, and the absent members of the Society who are in the service were given a vote of confidence.

KENT COUNTY

At the annual meeting of the Kent County Medical Society held December 18th, the following officers were elected:

President, Dr. H. J. Vandenberg, Grand Rapids; Vice-President, Dr. P. L. Thompson, Grand Rapids; Secretary-Treasurer, Dr. A. V. Wenger, Grand Rapids; Assistant Secretary, Dr. V. M. Moore, Grand Rapids; Defense League, Dr. G. L. McBride, Grand Rapids; Delegates, Dr. J. D. Brooks, Grandville; Dr. S. L. Rozema, Grand Rapids; Dr. A. V. Wenger, Grand Rapids; Alternates, Dr. J. Kremer, Grand Rapids; Dr. C. W. Brayman, Cedar Springs; Dr. D. G. Houghton, Caledonia; Magic Lantern Artist, Dr. G. L. Bond, Grand Rapids.

Book Reviews

THE SURGICAL CLINICS OF CHICAGO, Volume II., Number V., 87 illustrations. Published by the W. B. Saunders Co., Philadelphia and London.

The Surgical Clinics of Chicago is an always welcome visitor. No surgeon's Journal list is complete without a copy of same. It would be impossible to select one individual subject as all of them are distinct contributions and of special value. The subject presents profound interest for the general practitioner and surgeon alike.

PRINCIPLES AND PRACTICE OF INFANT FEEDING. By Julius H. Hess, M.D., Philadelphia, F. A. Davis Co., 1918. 338 pages. Illustrated. Price \$2.00.

This manual is more of a guide for students and teachers in clerical work. A greater condensation in the modern theory and practice of infant feeding could be made. The favorite feeding practice of the author shows a somewhat pessimistic condition. The author goes into detail in the management of feeding the premature infant. He favors Finkelstein's classification and presents a good and instructive guide on the principles of infant feeding.

MENTAL DISEASES, a handbook dealing with diagnosis and classification. By Walter Vose Gulick, M.D., Assistant Superintendent of the Western State Hospital, Fort Steilacoom, Washington. Illustrated. C. V. Mosby Co., St. Louis, Mo. Price, \$2.00.

This book deals with classification and diagnosis. The classification gets rid of many of the obscure divisions and attempts to classify the different psychoses under each causative department. Anatomical structural changes are not shown. Numerous cases with differential symptoms are reported. In all it is an attempted classified psychoses and is a handy and ready reference.

CLINICAL MEDICINE FOR NURSES. By Paul H. Ringer, M.D. Published by the F. A. Davis Co. Price, \$2.00.

The writer presents a subject that shows advanced ideas for the already overburdened nurse. Its attempt would make them become, if its teachings were followed, good diagnosticians and practitioners. It is concise, well written and more fitting, to be added to the group of student clinical medicine.

INFORMATION FOR THE TUBERCULOUS. By F. W. Wittich, A.M., M.D., Instructor in Medicine and Physician in charge of tuberculosis dispensary in the University of Minnesota Medical School; Visiting Physician to University Hospital, Minneapolis. C. V. Mosby Co., Publishers. C. V. Mosby Co., St. Louis, Mo., \$1.00.

All tuberculars are anxious to know all about their individual conditions. In the compilation of this work the author has endeavored to inform the tubercular of his exact condition in language that is by them best understood. The anatomy of the lung, the tubercular bacillus, its action, its association with the other organs and the effect upon the lung is so nicely told that any layman can understand. The three cardinal principles of cure—rest, diet, and climate, are so nicely interwoven that by following the same, good and valid results could be obtained. It should be read by every tubercular as it will disabuse their mind of the many prevailing fallacies.

MANUAL OF OTOTOLOGY. By G. Bacon, A.B., M.D., F.A.C.S. Assisted by Truman Lawrence Saunders, A.B., M.D., Seventh Edition, revised and enlarged. 583 pages with 204 illustrations and 2 plates. 12 mo. Lea & Febiger, New York and Philadelphia, 1918. \$3.00.

Doctor Bacon's works have so long been a recognized manual on Otology by the specialist that each succeeding edition gives us all the advanced ideas. The "Running Ear" his chapter on chronic middle ear discharges if read by the general practitioner would show him the dangers which might result therefrom which are not so generally known and patients referred to their proper place for treatment. The interpretation of Nystagmus, vertigo, nausea, and vomiting in relation to diseases of the labyrinth and the conservatism advised in their treatment is well worth careful consideration.

Miscellany

PUBLIC INFORMATION ESSENTIAL IN STATE BOARD ACTIVITIES.

By Geo. L. LeFevre, M.D., F.A.C.S.,
Muskegon, Michigan.

In handling the subject assigned me, namely, "Public Information Essential in State Board Activities," I was not sure from which angle I was supposed to deal with the subject; the standpoint of the "Public" or that of the "State Boards," or both. I am sure, though, that the public is far more in the dark as regards our activities than we are as to their needs. They have something else to occupy their minds, and as you all know,

"Just at the brink of danger—not before—
God and the doctor they implore.

But when danger is past and all is righted,
God is forgot and the doctor slighted."

The public sees "through a glass darkly, but some day face to face," and that time is not far distant. The world war, the calling of hundreds of doctors to the colors, the diminution in the number of medical students and medical schools is rapidly producing a scarcity of doctors that will soon arouse the public to the due necessity of concerted action in order to secure competent physicians.

The public should know, through the medium of publicity, that the State Boards are the "S. O. S." of their existence, that they are public benefactors, serving without compensation, to protect from subluxation acrobats, bath-tub-healers, newspaper specialists and therapeutic vultures and quacks. German kultur is as logical as their ministrations.

I have heard that the State Boards and medical schools are being accused of being responsible for the increase in the number of new cults, due to increased requirements for an M.D. degree. I resent such accusations and feel, yes know—that the public alone is responsible for their existence. So long as people are willing to trust their health and life to these uneducated, unscientific, advertising quacks, there is always occasion for their existence; but the minute the public is educated to the fact that the blacksmith is just as safe to repair your watch as they are to cure pathological conditions—just that minute will they cease to exist. The public must be taught that our efforts are to place at their disposal educated, scientific physicians and surgeons, men and women who can be trusted to give efficient service.

It seems to me that those who seek relief from these quacks are "like an infant crying in the night, an infant crying for the lights with no other language but a cry." Publicity must furnish them the light and it is the language of publicity that we must furnish them. Public information is essential in State Board activities.

Furthermore, in looking over the number of students examined this year as compared with a few years ago, I feel that the public should be made aware of the fact that in spite of the marked increase in population that we are graduating fewer doctors each year. It is only a question of time until the public will suffer from the lack of competent medical and surgical attention. This fact should be brought home to them, students entering high school should be shown the possibilities awaiting them in our profession, and that we are just as anxious, if not more so, to give our O. K. and aid in their preparation, as we are to prevent the unscrupulous cults from carrying on their quackery. Also these students should be advised as to what schools they should enter in order to be able to appear before all State Boards for examination without any question as to their eligibility to take said examinations, and in order that they may receive reciprocity if so desired.

I could spend much more time upon this subject, but I feel it is not necessary, for you all see the dire necessity of bridging that gulf that lies between our State Board activities and the public. I can not help but feel if they knew of our work and our labors to benefit mankind as a whole, that we would receive enthusiastic support from them and that all quackery would be crucified and our legitimate schools filled with bright young men and women now and always.

Further, I would suggest that our patriotic doctors who have left their practice and enlisted in the service should be given universal reciprocity upon their return.

OUR HONOR ROLL.

County Secretaries are requested to report the names of all members in the Service.

Bay County.

Dr. F. S. Baird, Bay City; Dr. F. W. Brown, Bay City; Dr. S. L. Ballard, Auburn; Dr. C. V. Crane, Tawas City; Dr. V. H. Dumond, Bay City; Dr. E. Goodwin, Bay City; Dr. E. S. Huckin, Bay City; Dr. H. P. Lawrence, Pinconning; Dr. R. C. Perkins, Bay City; Dr. F. H. Randall, Bay City; Dr. R. E. Scrafford, Bay City; Dr. M. R. Slattery, Bay City; Dr. P. R. Urmston, Bay City.

Benzie County.

Dr. C. P. Doyle, Frankfort.

Branch County.

Dr. W. J. Bien, Union City; Dr. W. A. Griffith, Coldwater.

Calhoun County.

Dr. J. T. Case, Battle Creek; Dr. E. M. Chauncey, Albion; Dr. James Elliott, Battle Creek; Dr. R. V. Gallagher, Battle Creek; Dr. J. G. Gage, Battle Creek; Dr. W. Haughey, Battle Creek; Dr. G. C. Hafford, Albion; Dr. A. A. Hoyt, Battle Creek; Dr. J. J. Holes, Battle Creek; Dr. C. W. Heald, Battle Creek; Dr. T. Kolvoord, Battle Creek; Dr. A. C. McCurdy*, Battle Creek; Dr. W. N. Putman, Battle Creek; Dr. A. H. Ross, Battle Creek; Dr. A. J. Read, Battle Creek; Dr. R. D. Sleight, Battle Creek; Dr. R. C. Stone, Battle Creek; Dr. L. H. Tower, Battle Creek; Dr. E. Van Camp, Athens; Dr. C. G. Wencke, Battle Creek.

*Died in France, November 28th, 1918.

Cheboygan County.

Dr. A. J. Sahs, Cheboygan.

Chippewa-Luce-Mackinac County.

Dr. F. C. Bandy, Newberry; Dr. M. V. Gates, Eastport; Dr. R. D. Scott, Rudyard; Dr. T. R. Whitmarsh, Ypsilanti; Dr. R. C. Winslow, Sault Ste. Marie; Dr. I. V. Yale, Sault Ste. Marie.

Clinton County.

Dr. M. S. Gregory, Eureka; Dr. W. A. Scott, St. Johns; Dr. D. H. Silsby, St. Johns; Dr. W. M. Taylor, Ovid.

Delta County.

Dr. J. L. Conover, Rapid River; Dr. H. W. Long, Escanaba; Dr. J. J. Walch, Escanaba.

Genesee County.

Dr. G. H. Bahlman, Flint; Dr. C. S. Ballard, Flint; Dr. M. W. Clift, Flint; Dr. C. P. Clark, Flint; Dr. Henry Cook, Flint; Dr. V. H. DeSomoskeoy, Flint; Dr. J. W. Evers, Flint; Dr. G. R. Goering, Flint; Dr. B. Goodfellow, Clio; Dr. J. N. Houston, Flushing; Dr. J. Houston, Swartz Creek; Dr. J. G. R. Manwaring, Flint; Dr. F. B. Miner, Flint; Dr. R. S. Morrish, Flint; Dr. W. H. Marshall, Flint; Dr. J. W. Orr, Flint; Dr. A. T. Pauell, Flint; Dr. K. G. Pratt, Flint; Dr. F. E. Reeder, Flint; Dr. W. C. Reid, Grand Blanc; Dr. A. J. Reynolds, Flint; Dr. E. C. Rumer, Flint; Dr. H. E. Randall, Flint; Dr. F. A. Roberts, Flint; Dr. B. R. Sleeman, Linden; Dr. W. H. Winchester, Flint; Dr. L. S. Willoughby, Flint.

Gogebic County.

Dr. C. D. Collins, Ironwood; Dr. G. J. Curry, Watersmeet; Dr. E. B. Stebbins, Ironwood.

Grand Traverse-Leelanau County.

Dr. G. A. Holliday, Traverse City; Dr. G. M. Johnson, Traverse City; Dr. W. D. Mueller, Traverse City; Dr. E. L. Thirlby, Traverse City.

Gratiot-Isabella-Clare County.

Dr. Ralph E. Dawson, Blanchard; Dr. C. B. Gardner, Alma; Dr. C. D. Pullen, Mt. Pleasant; Dr. A. R. Mussell, Clare; Dr. B. J. Sanford, Clare; Dr. T. P. Vanderzalm, Blanchard.

Hillsdale County.

Dr. W. R. Atterbury, Litchfield; Dr. T. H. E. Bell, Reading; Dr. B. F. Green, Hillsdale; Dr. E. A. Martindale, Hillsdale; Dr. H. C. Miller, Hillsdale; Dr. I. J. Stoner, Jonesville.

Houghton County.

Dr. J. F. Barton, Calumet; Dr. R. B. Harkness, Houghton; Dr. H. M. Joy, Calumet; Dr. N. S. MacDonald, Houghton; Dr. P. D. MacNaughton, Calumet; Dr. J. D. McKinnon, Calumet; Dr. F. F. Marshall, Pequaming; Dr. V. L. Oler, Kearsarge; Dr. B. H. Olmsted, Calumet; Dr. L. M. Power, Hancock; Dr. James Rhines, Laurium; Dr. D. D. Todd, Adrian; Dr. A. R. Tucker, Mohawk; Dr. L. E. Werry, Calumet.

Huron County.

Dr. A. E. W. Yale, Pigeon.

Ingham County.

Dr. H. S. Bartholomew, Lansing; Dr. C. L. Barber, Lansing; Dr. M. L. Cushman, Lansing; Dr. F. J. Drolett, Lansing; Dr. Clara Davis, Lansing; Dr. C. W. Ellis, Lansing; Dr. J. A. Humphrey, Lansing; Dr. M. L. Holm, Lansing; Dr. H. B. Knapp, Lansing; Dr. H. W. Landon, Lansing; Dr. R. R. McCrumb, Lansing; Dr. C. H. Murphy, Lansing; Dr. H. A. Miller, Lansing; Dr. A. E. Owen, Lansing; Dr. R. A. Pinkham, Lansing; Dr. J. G. Rulison, Lansing; Dr. M. Shaw, Lansing.

Jackson County.

Dr. W. B. Anderson, Jackson; Dr. H. D. Brown, Jackson; Dr. R. Cooley, Jackson; Dr. C. R. Dengler, Jackson; Dr. C. E. DeMay, Jackson; Dr. W. H. Enders, Jackson; Dr. H. L. Hurley, Jackson; Dr. Thos. Hackett, Jackson; Dr. R. G. Hendricks, Jackson; Dr. W. Lake, Grass Lake; Dr. R. H. Leece, Munith; Dr. D. B. Marsh, Jackson; Dr. J. J. McCormick, Jackson; Dr. C. D. Mumro, Jackson; Dr. Fred Main, Jackson; Dr. J. A. McQuillan*, Jackson; Dr. J. O'Mara, Jackson; Dr. E. S. Peterson, Jackson; Dr. G. Seybold, Jackson; Dr. G. E. Winter, Jackson.

*Killed in France, October 26, 1918.

Kent County.

Dr. H. J. Beel, Grand Rapids; Dr. H. Blackburn, Grand Rapids; Dr. R. C. Breece, Ada; Dr. J. S. Brotherhood, Grand Rapids; Dr. F. A. Boet, Comstock Park; Dr. A. M. Campbell, Grand Rapids; Dr. L. H. Chamberlin, Grand Rapids; Dr. J. R. Coryell, Grand Rapids; Dr. B. R. Corbus, Grand Rapids; Dr. C. W. Deaver, Grand Rapids; Dr. P. J. DePree, Grand Rapids; Dr. H. W. Dingman,

Grand Rapids; Dr. J. C. Foshee, Grand Rapids; Dr. C. M. Freeman, Ada; Dr. T. D. Gordon, Grand Rapids; Dr. H. A. Grube, Grand Rapids; Dr. J. T. Hodgen, Grand Rapids; Dr. J. N. Holcomb, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. C. Kenning, Grand Rapids; Dr. F. C. Kinsey, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. H. Muller, Grand Rapids; Dr. A. M. Martin, Grand Rapids; Dr. A. A. McNabb, Grand Rapids; Dr. A. G. McPherson, Grand Rapids; Dr. L. E. Sevey, Grand Rapids; Dr. R. R. Smith, Grand Rapids; Dr. A. B. Smith, Grand Rapids; Dr. F. N. Smith, Grand Rapids; Dr. R. E. Toms, Grand Rapids; Dr. R. T. Urquhart, Grand Rapids; Dr. P. Ver Meulen, Grand Rapids; Dr. W. E. Wilson, Grand Rapids; Dr. S. M. Wells, Grand Rapids; Dr. J. B. Whinnery, Grand Rapids; Dr. F. C. Warnshuis, Grand Rapids.

Manistee County.

Dr. Lee Lewis, Manistee; Dr. A. A. McKay, Manistee; Dr. H. McMullen, Manistee; Dr. W. Norconk, Bear Lake; Dr. L. Ramsdell, Manistee.

Marquette County.

Dr. I. Abrahanson, Negaunee; Dr. A. V. Braden, Ishpeming; Dr. H. T. Carriel, Marquette; Dr. W. B. Lunn, Marquette; Dr. C. J. Larson, Negaunee; Dr. I. Scotte, Michigamme; Dr. L. L. Youngquist, Marquette.

Menominee County.

Dr. C. R. Elwood, Menominee; Dr. W. R. Hicks, Menominee; Dr. E. V. McComb, Menominee; Dr. H. T. Sethney, Menominee.

Muskegon County.

Dr. C. M. Colignon, Muskegon; Dr. H. S. Cole, Whitehall; Dr. B. R. Eastman, Muskegon; Dr. W. L. Herick, Whitehall; Dr. F. W. Hannum, Muskegon; Dr. V. S. Laurin, Muskegon; Dr. F. N. Morford, Muskegon; Dr. E. S. Thornton, Muskegon.

Oakland County.

Dr. F. S. Bachelder, Pontiac; Dr. S. A. Butler, Pontiac; Dr. L. G. Campbell, Birmingham; Dr. L. A. Farnham, Pontiac; Dr. F. D. German, Franklin; Dr. G. W. MacKinnon, Oxford; Dr. E. E. Orton, Pontiac; Dr. G. P. Raynale, Birmingham.

Oceana County.

Dr. C. Day, Clinton; Dr. G. F. Lamb, Pentwater.

Ontonagon County.

Dr. E. J. Evans, Rockland; Dr. E. A. Florentine, Ewen; Dr. J. L. Kelliher, Phoenix; Dr. E. A. Linger, Rockland; Dr. D. L. Lutes, Victoria.

Sanilac County.

Dr. H. H. Angle, Snover; Dr. J. C. Webster, Peck; Dr. C. G. Woodhull, Decker.

St. Clair County.

Dr. I. P. Bowden, Port Huron; Dr. F. V. Carney, St. Clair; Dr. G. M. Kesi, Port Huron; Dr. A. J. MacKenzie, Port Huron; Dr. D. W. Patterson, Blain; Dr. G. Waters, Memphis; Dr. W. G. Wight, Yale.

Tuscola County.

Dr. F. P. Bender, Caro; Dr. W. C. Garvin, Millington.

Washtenaw County.

Dr. James F. Breakey, Ann Arbor; Dr. H. B. Britton, Ypsilanti; Dr. R. B. Canfield, Ann Arbor; Dr. H. W. Emerson, Ann Arbor; Dr. N. B. Foster, Ann Arbor; Dr. C. George, Jr., Ann Arbor; Dr. H. Malagan, Ann Arbor; Dr. Reuben Peterson, Ann Arbor; Dr. V. C. Vaughan, Ann Arbor; Dr. U. J. Wile, Ann Arbor.

THAT FLU STUFF.

If you have a tummy-ache,
It's the Flu!
If you're weary when you wake,
It's the Flu!
Is your memory off the track?
Is your liver out of whack?
Are there pimples on your back?
It's the Flu!

Are there spots before your eyes?
It's the Flu!
Are you fatter than some guys?
It's the Flu!
Do your teeth hurt when you bite?
Do you ever have a fright?
Do you want to sleep at night?
It's the Flu!

Are you thirsty when you eat?
It's the Flu!
Are you shaky on your feet?
It's the Flu!
If you feel a little ill
Send right off for Doctor Pill,
He will say, despite his skill:
"It's the Flu!"

He won't wait to diagnose,
It's the Flu!
Hasn't time to change his clothes,
It's the Flu!
For two weeks he's had no rest,
Has no time to make a test,
So he'll class you with the rest—
It's the Flu!

—Cincinnati Enquirer.

The public, they are wild
About the Flu!
Some of them act like a child
About the Flu!
"Olin's" diagnosis is the best
When he pulls down his vest,
The doctors know the rest
About the Flu!

—Editor.

NEW AND NON-OFFICIAL REMEDIES.

Lutein Tablets-H. W. and D., 2 Grains.—Each tablet contains 2 grains of lutein (the fully developed corpora lutea of the hog, dried and powdered). Hynson, Westcott and Dunning, Baltimore, Md. (*Jour. A.M.A.*, Nov. 2, 1918, p. 1485).

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Original Articles

INFLUENZA AND INFLUENZA PNEUMONIA. AN ANALYTIC REPORT OF THE CLINICAL FINDINGS IN 131 CASES OF EPIDEMIC INFLUENZA.*

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AND

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ANN ARBOR, MICHIGAN.

From September 23rd to November 11th, 131 cases of influenza were admitted to the Contagious Service of the University Hospital, Thirty-one of these had a complicating broncho-pneumonia. Of these thirty-one cases nineteen were admitted with uncomplicated influenza, and developed signs of pneumonia under our care. Twelve were admitted to the service because of the fact that broncho-pneumonia already complicated the influenza. In other words, approximately 15 per cent. of the cases admitted without pneumonia developed it, and this figure could be taken as representing the percentage of pneumonia developing in this locality.

Our first case of influenza was admitted nine days before the epidemic became general. This case was a soldier visiting from Massachusetts where an epidemic of influenza prevailed. His symptoms were typical of the disease as we later came to observe them. Several cases seen in this city by one of us, prior to this case, developed unexplained fever, headache, more or less marked gastro-intestinal symptoms with absence of leucocytosis. About the same time two other cases (children) were observed, being sent into the Contagious Hospital, diagnosed scarlet fever by a local physician. These patients complained of general pain throughout the body. They had a moderate cough; the throat was slightly reddened; the cervical

glands were slightly enlarged and the temperature was moderately high. There was no leucocytosis. There was a punctiform rash over the face and upper chest, slight mouth pallor; no strawberry tongue or kidney complications developed, and no desquamation occurred during their fifteen days' stay in the hospital, nor has there been any observed by the family up to the time of this report.

These cases represent the bizarre manifestations of the beginning of the epidemic in this locality. Indeed, there were not a few cases of gastro-intestinal disease with headache which, at first, suggested ileocolitis, appendicitis and typhoid, but which did not measure up, and which, now, we know were cases of influenza.

The patients who are reported here are chiefly students belonging to the S. A. T. C. and nurses from the Training School of the University Hospital. This report includes only cases sent to the Contagious Department of the University Hospital, and does not include broncho-pneumonia cases transferred to us from other departments in the hospital which were caring for influenza cases. Because of the sudden development of the epidemic and the enormous amount of work entailed upon members of the staff, it was impossible for us to carry out any definite line of investigation. Careful physical examinations and careful daily notes were made in all cases. It occurred to us that it might be of general interest to record the clinical findings. We regard the points presented as trustworthy.

Most of the influenza patients entered with the symptoms of coryza. They complained of backache, headache especially marked over the orbits and a few general pains throughout the body. The great majority of them were almost completely prostrated. Even those patients who showed no marked febrile excursion complained of exhaustion. A small percent of the cases had marked chills. An irritating bronchial cough was a constant finding. Nausea and vomiting were also noted as initial symptoms.

*From the Department of Pediatrics and Contagious Diseases, University of Michigan Hospital.

Physical examination showed the catarrhal symptoms previously mentioned and a slightly injected pharynx in nearly all of the cases. The tonsils were not enlarged nor did we find an exudate. A constant finding, however, was an inflammation of the lateral lymphoid bands of the pharynx. There was no post-nasal discharge, and, generally, the throat was dry. In some cases hoarseness was present, and examination revealed distinct laryngeal injection. In a few the ear drums were seen to be dull, and these patients complained of some earache. In no case was a bulging ear drum an initial symptom of the disease. Epistaxis was present in 10 per cent. of all cases, the nares showing an excoriation of the septum measally. The cervical glands were rarely enlarged and, when this finding was positive, in every case it could be explained by a previous exanthem or by an acute or chronic tonsillitis complicating the influenza. The glands were conspicuous by the absence of their enlargement.

Examination of the thorax was negative in the great majority of the cases. However, where there was a bad bronchial or laryngeal cough the patient complained of acute substernal pain. In cases where the prostration was more acute and the fever was markedly high some lung signs were generally elicited. The most common signs were moist rales and, occasionally, crepitation in the left base posteriorly. Respiratory signs varying from a few rales to a condition which closely simulated broncho-pneumonia occurred in 23 per cent. of the straight influenza cases. Pathology of the heart was not demonstrated as a system or result of the disease, excepting in one of the pneumonia cases.

Abdominal findings were so frequent as to be almost pathognomonic. Subcostal pain in the splenic region occurred in over half of the cases. Pain in the appendix region was common and often quite acute. Constipation was marked in every case, but was more marked in cases where the abdominal symptoms were as above stated. Meteorism and enlarged spleen were not encountered.

Changes in the skin are of peculiar interest. In twelve cases of influenza uncomplicated by pneumonia and in one with pneumonia a punctiform erythematous rash was observed on the face and neck. In four cases this eruption covered the face, neck and anterior thorax. In two cases the eruption covered the entire body. Mouth pallor was also observed. This makes thirteen cases in all, not including the two

cases mentioned in the first paragraph of this report. Jaundice was observed in one case. In seven of the pneumonias it was of the obstructive type as shown by bile in the urine. In some of these the liver could be palpated.

The fever which we found typical of this disease was as follows—the temperature would remain between 99 and 100 for approximately twenty-four hours, during which time the patient suffered from headache and backache. It would then suddenly rise to a fastigium oscillating between 102 and 105 degrees F. from which height it would decline by lysis, reaching normal in from five to six days from the onset. We were fortunate in being able to watch the initial rise of the fever. It was a rule in the training school for all nurses to take their temperature night and morning during the period of the epidemic. They were immediately sent off duty if their temperature rose above normal. This typical fever was noted in 86 per cent. of these cases. In the remainder, there was another type of temperature which we have called the continuously high type. In these cases the fever reached a fastigium of 102 or 103 degrees F., and remained there with only slight variations for three or four days, and declined by lysis. We did not feel justified in diagnosing these as cases of pneumonia although most of them did show some "lung" signs as mentioned above. It was the rule that these cases cleared up and were discharged from the hospital as quickly as those of the other type.

The pulse throughout the course of influenza was of good quality and the rate did not exceed that which would be expected in the temperatures encountered. An average of eighty-three for the duration of the disease was found.

The respirations were lower than one would be led to expect in a respiratory disease of this kind. They did not exceed thirty-two in any adult case. An average of twenty throughout the course of the disease was found.

LABORATORY FINDINGS.

Urine examinations were made repeatedly on thirty-four of the cases, in not a single instance was there a positive finding.

Blood: White blood counts, done on an average of every three days in forty-four of the cases, ranged from 4,400 to 9,400, except in one case where the count was 24,200 at the time the patient had a complicating follicular tonsillitis. The average leukocyte count was 6,450. From this it will be seen that although

Date	Cases admitted.	Influenza.	No. of cases of Influenza developing Pneumonia.	No. of cases of Influenza admitted with Pneumonia.	Deaths in those admitted with Pneumonia.	Deaths in those developing Pneumonia.
Sept.						
23	1					
Oct.						
1	2					
2	2					
3	0					
4	9			1	1	
5	2		1			1
6	0					
7	4					
8	8					
9	4					
10	2					
11	4		1			
12	2					
13	5		1	2	1	
14	3					
15	3					
16	1					
17	4					
18	23		4	2		3
19	2		1	1		1
20	5		1			1
21	3					
22	2					
23	7		4	1		2
24	3					
25	3			2		
26	3					
27	3		1	1	1	
28	1		1			
29	2			1		
30	6		1	1		
31	4					
Nov.						
1	0					
2	0					
3	3		1			
4	1					
5	1		1			
6	0					
7	1		1			
8	3					
9	1					
Total	131		19	12	3	8

the fever was intense, rising at times as high as 106, it was the rule to find an absence of leukocytosis. The count was frequently low, occasionally amounting to a leukopenia, but a leukopenia was not the rule.

Sputum: Ninety-two per cent. of the cases raised sputum. It was of the muco-purulent type. Two showed bloody sputum. Since it was generally found that pneumonia was ushered in by blood streaked sputum, these cases were considered as possible beginning pneumonias, but as they cleared up with no further signs we regarded them as uncomplicated influenzas. Cultures on blood agar were made in twenty-two of the cases. In 59 per cent. gram negative coccobacilli were found in typical colony formation which we have regarded as positive influenza; pneumococci were commonly found and occasionally streptococci. Hemolytic streptococci were not found. This may have been due to faulty technique.

The complications encountered in this series aside from the pneumonia which we consider separately were few. Plastic pleurisy was observed in four patients; an effusion was demonstrated in one. Marked jaundice was found in one case. Otitis media of the purulent type was found in three cases. "Arthritis" was observed in three cases. A marked psychosis occurred in one case. Recovery occurred in all cases which did not develop pneumonia.

BRONCHO PNEUMONIA COMPLICATING INFLUENZA.

The following table gives an idea of the course of the epidemic from which we might determine the comparative severity of the pneumonias in the first and latter stage of the epidemic. There has been a feeling that the pneumonias in the latter part were more likely to recover than those which developed in the early part of the epidemic. See Chart No. 1.

It will be seen that during the period from Sept. 23rd to Oct. 25th, ninety-nine cases of influenza entered the Contagious service. Twenty of these had a broncho pneumonia, and ten of them or 50 per cent. died. From October 25th to November 9th, thirty-two cases were admitted, eleven of these had broncho pneumonia and one of them, 9 per cent. died. This may not be a fair comparison, but the figures are very striking. Pneumonias developing at the present time, after the epidemic has practically run its course, certainly do not cause us the concern they did at the height of the epidemic. Our care of the cases has been prac-

tically the same throughout. Segregation of all cases and no ward crowding was faithfully carried out at all times.

DURATION OF THE DISEASE.

An analysis of the bedside charts of the pneumonia patients reveals the following facts: In the pneumonias who lived, the average time elapsing from the beginning of the influenza until the time they developed pneumonia was seven days. In those who died, eleven days. The average duration of the pneumonia was eleven days, that is from the onset of signs of pneumonia to the end of the fever. In those who died, the average duration of the pneumonia was five days. From this it will be seen that the longer the influenza exists before the pneumonia begins the more likely is death to occur.

SYMPTOMS.

The Fever.—The typical temperature of influenza has been previously noted. With the onset of the pneumonia, the fever developed into the continuously high type invariably. While a similar temperature curve occurred in a few of the uncomplicated influenza cases, nevertheless, the curve may be regarded as characteristic of the influenza pneumonia. The typical decline of the fever is by lysis. In only four cases did the fever end by crisis unless it was induced.

The Pulse.—Analysis of the pulse shows the following averages:

The average pulse rate of the influenza cases was 83.

The average highest pulse rate of the influenza cases was 107.

The average pulse rate of the pneumonias who lived was 104.

The average pulse rate of the pneumonias who died was 111.

The average highest pulse rate of the pneumonias who lived was 126.

The average highest pulse rate of the pneumonias who died was 149.

The averages may not be of marked significance, as a few high or low pulse records might raise or lower the average pulse rate perceptibly. However, when one looks at the graphic bedside chart, one can not help being impressed by the average low pulse rate throughout the entire disease, excepting in those cases who died, where there is almost invariably a sharp preagonal rise. We were impressed with the good quality of the pulse throughout the disease excepting just before death. We were able to ob-

serve personally the majority of the cases at the time of death. In all the respirations ceased before the heart beat.

The Respiration.—Analysis of the respiration records the following:

The average respiration rate for the influenzas was 20.

The average highest respiration rate of the influenzas was 26.

The average respiration rate of the pneumonias who lived was 31.

The average respiration rate of the pneumonias who died was 31.

The average highest respiration rate of the pneumonias who lived was 39.

The average highest respiration rate of the pneumonias who died was 47.

The highest respiration recorded is frequently preagonal.

Early in the epidemic we were impressed with the fact that the seriousness of the disease could not be judged by the respiratory rate. It will be seen that the average respiratory rate for those who lived and for those who died was very low, and an equally important observation is that they are the same. We had been accustomed to feel in our pneumonias of the past that a low respiration was a favorable symptom. In this epidemic a low respiration gave no clue to the seriousness of the disease.

Cough, Sputum and Pulmonary Hemorrhage.—In general it may be said that the cough was distressing and that in nearly every instance it was accompanied by acute substernal pain. The sputum was of the muco-purulent type. In sixteen of the thirty-one cases it was tinged with blood, but it was not of the prune juice type. Five of these died. The amount of blood varied all the way from a pinkish tinge to almost pure blood. In two cases true pulmonary hemorrhages occurred, both of these cases died. The amount of blood in the sputum did not necessarily correspond to the seriousness of the case.

Gastro-Intestinal Symptoms.—These were very common, nausea, vomiting, abdominal pain and persistent constipation being the ones chiefly noted. Vomiting occurred in 74 per cent. of the cases independent of the administration of digitalis. Digitalis, almost invariably, made this symptom worse. Abdominal pain and tenderness was a common finding in the influenzas, but this usually is not complained of after the onset of pneumonia. Constipation was present in all cases except preagonally when

incontinence was the rule. Meteorism did not occur in any case.

Cyanosis and Skin Manifestations—In 81 per cent. of this series cyanosis was a more or less marked feature, frequently being the first sign of the pneumonia, before any lung signs could be demonstrated. The cyanosis was frequently intense and extensive, in one case it involved the entire body.

A scarletiform rash was observed in one case at the beginning of the pneumonia. Jaundice of the obstructive type was more or less marked in seven cases. Herpes was present in two cases both of whom died.

Location of the Pulmonary Process—We were all impressed with the frequency with which the beginning process was located in the left base posteriorly. Diminished breathing, crepitant rales and impaired resonance quickly followed by bronchial voice and blowing breathing, and by an extension of the process on the same or the opposite side was the rule in the development of the pneumonia. In several cases crepitation was heard in both bases at the same time, but the process almost invariably increased on one side, before the other side showed appreciable broncho-pneumonic signs. Analysis of this point shows the following:

Left Base Posterior, twenty-one cases, 67 per cent.

Right Base Posterior, seven cases, 23 per cent.

Both Bases, three cases, 10 per cent.

The process developed, occasionally, in the upper part of the lower left lobe but more frequently in the lower part, but in either case, sooner or later, signs of involvement of the entire lobe were obtained, so much so that a diagnosis of croupous pneumonia might easily have been made at this stage. Early in the epidemic, confluence of pneumonia patches was recognized. A very interesting observation is the absence of increased tactile fremitus over the affected area, which led us, at first, to suspect pleurisy, however, the distinct flatness of pleuretic effusion was not observed in these cases, and subsequent examination disproved this idea. Frequently the patient's voice was feeble, this may account for the lack of increased vibration.

From our present knowledge of the disease, we think one can say, without reserve, that all deaths reported to the State departments of vital statistics as influenza deaths were in reality deaths due to broncho-pneumonia. The fact that the pneumonic process began in the

lower back and, frequently, confined itself to this location is, probably, responsible for the deaths being recorded as influenza deaths, for we are compelled to note the frequency with which a careful examination of the back is omitted by many physicians. The general fashion of American physicians, at this day, seems to have changed but little from that in vogue during the times of the illustrious Louis. Dr. James Jackson, Jr., writing to his father from Louis clinic in Paris under date of October 28th, 1831, remarked: "The French examine the back more than the front; we do the contrary; both err, but they the least." We have noted a number of cases in which the diagnosis of pneumonia was not made because the back was not examined.

LABORATORY FINDINGS.

Blood Examinations—The leucocytes were counted in all cases. Daily leucocyte counts were impossible. In some cases four or five counts were made, one always being made during the definite signs of the pneumonia. The following table analyzes the results obtained.

LEUCOCYTE COUNTS MADE DURING THE ACTIVE

STAGE OF THE PNEUMONIA.

In those who lived.	In those who died.
6,600	9,800
12,900	9,100
7,600	4,500
11,200	5,900
19,300	8,200
9,800	6,200
12,400	7,500
8,900	4,100
13,500	6,100
10,500	5,300
7,600	5,000
10,400	
7,500	
4,200	
6,400	
3,000	
20,900	
13,300	
7,000	
Average 10,150	6,500

The average blood count of the influenza cases was 6,450.

The average white blood count of the pneumonias who lived was 10,150.

The average white blood count of the pneumonias who died was 6,500.

In the living, the polys averaged 75 per cent., in the dead 61 per cent. In the living, the lymphocytes averaged 25 per cent., in the dead 39 per cent. It will be seen from the table that the definite leucocytosis so generally found in pneumonias of the croupous and broncho type does not obtain in this disease. This fact is significant. A leukopenia can not be said to be typical of the influenza pneumonias. It occurred only twice in the nineteen cases which recovered. On the other hand, a slight leukopenia occurred in five of the eleven cases which died. One is justified in concluding that a low leukocyte count in a pneumonia is a grave symptom, and that even a slight leukocytosis is a favorable sign. One might infer that death is due either to failure of the leukocytic mesenchymal fundaments to react to the stimulus or that they were not stimulated.

Blood cultures were taken in six cases. Three were sterile, two were positive for pneumococcus type II, and one was positive for pneumococcus type IV., all died.

Urine—Repeated urine examinations were made in all cases. Albumin and casts were positive in 70 per cent., 51 per cent. of those that lived showed albumin and casts and 90 per cent. of those that died. The presence of albumin and casts is of grave significance, especially so when we consider that in the thirty-four cases of uncomplicated influenza, careful examination failed to reveal either albumin or casts.

Sputum Cultures—Sputum cultures were done in twelve cases. In eight of these, influenza bacilli were found. Of these twelve cases, there were three deaths all of which were positive for *Bacillus Influenzae*. Some of the cases which showed almost pure culture were the least toxic.

COMPLICATIONS.

Pleurisy—It was a fairly general finding that pleurisy ushered in the pneumonia as manifested by fine crepitation, pain, and dullness but no friction, this being a marked feature in ten cases. In five of the cases, a pleurisy followed the pneumonia, sometimes it was quite severe, and, in one case, involved the upper half of the left lung and, in another case, involved the pleura of the entire left lung.

Empyema—This occurred in only one of our

cases. A localized effusion was found in the left axilla from which 80 c.c. of greenish yellow pus was withdrawn; a smear showed pneumococci.

Pericarditis—Pericarditis with effusion was observed in one case five days after his temperature had dropped to normal. It persisted for two days. Patient recovered. A peripolyarthritis was observed in two cases. Two cases developed otitis media. The discharge was purulent and not bloody or serous. An otitis interna was observed in one case. Delirium was a common symptom. It did not occur in uncomplicated influenza even in those cases with high fever. A psychosis was observed in nearly half of the pneumonia cases, as manifested by hallucinations and delusions. Facial neuralgia occurred in one case. Meningeal symptoms (marked spasticity and some opisthotonos) were marked in one case. Sleeplessness was also common. In those who died it was especially marked, the patients not being able to sleep even with the assistance of opiates.

TREATMENT.

Segregation, masking, good nursing, aseptic technique as far as possible, good hygiene, forced diet, freedom from exposure, insistence upon frequent change of position were the measures which appeal to us as the ones which did the most good in the treatment of our influenzas and pneumonias. In other words, the disease seems to do as well, if not best, when left unhindered by the usual remedies employed. Salol and phenacetine and acetyl salicylic acid gave the greatest relief from head pains and body aches. These, we think, should be used expectantly and not continuously. Codein and heroin relieved the cough better than the other opiates. In many cases we gave digitalis in adequate amounts with the idea of supporting the heart muscle, although it almost constantly told us it needed no help.

On purely theoretical grounds, we employed sodium bicarbonate and adrenalin in 10 minim doses hypodermically every four hours for four doses, generally, without ill effects.

AUTOPSY RECORDS.*

Case No. 4306.

Lungs—One pint of blood stained fluid in

*From the Department of Pathology.

the pleural cavity. Lungs increased in size. Acute congestion. On section slight pressure causes bloody exudate. Left lower lobe completely consolidated; upper lobe shows patches of consolidation. Right lung showed many patches of consolidation. Pleura of right lung contained a serofibrinous exudate. Bronchi contained bloody edematous fluid. The process was very intense.

Throat—Normal throughout. No myocardial change.

Thymus—Persistent.

Liver—Acute passive congestion. Moderate fatty degeneration.

Kidneys—Intense, cloudy swelling and congestion.

Adrenals—Showed, probably, only post mortem change.

Lymph Nodes—Showed generalized hyperplasia.

Intestines—Showed acute congestion.

Spleen—Was rather small and showed acute congestion. The capsule was wrinkled.

Case No. 4308.

Lungs—Slight amount of bloody, purulent fluid. Both sides showed purulent lobular pneumonia. Several large patches. The upper lobes were least affected. These showed emphysema. There was a fibro purulent pleuritis on the left side (an early process) at the base.

With the exception of negative thymus, other organs same as case.

We wish to express our thanks to Drs. Kempton, Greenthal and Harvey for their kind assistance during the epidemic, without which this report could not have been made.

CONCLUSIONS.

1. The respiratory rate is no guide to the seriousness of influenza pneumonia.

2. The myocardium seems to be unaffected throughout the course of the influenza and the pneumonia. This clinical observation is borne out by the few autopsies made.

3. A low leukocyte count is characteristic of influenza and influenza pneumonia. A leukopenia frequently occurs, but it is not the rule.

4. Albumin and casts were not found in the straight influenza cases. They were present in 70 per cent. of the pneumonia cases. Their

presence should be regarded as indicative of pneumonia and of grave significance.

5. Cyanosis was a nearly and almost constant sign of the pneumonias. In every case observed, pneumonia was demonstrated.

6. In 67 per cent. of our series of influenza pneumonias the process started in the left base, posteriorly.

7. Bloody sputum was not necessarily a grave symptom of the pneumonia.

8. Cases with pulmonary hemorrhages ended fatally.

9. Doubtless all deaths from influenza are due to broncho-pneumonia.

INFLUENZA AND PNEUMONIA WITH THEIR COMPLICATIONS.

MAJOR LYNN S. BEALS.

CAMP CUSTER, MICHIGAN.

The field is too large to cover in one paper. The acute respiratory diseases up to the epidemic constituted 50 per cent. of all diseases. All should know respiratory diseases including the Surgeon, Nose and Throat Man, and all of the Specialists.

Influenza pneumonia is difficult to diagnose at times, the second wave being harder than at the start. No organism is common and is not diagnosed by bacteriology. May hide behind influenza obscure conditions if not careful, as in rheumatism. Cases coming in now diagnosed as influenza, which are not. Extreme care is necessary. Tonsillitis is mistaken for influenza. Infectiousness of influenza comes in waves, analogous to Exanthemata. There are no other diseases of such wide sweep except Exanthemata.

THE BACTERIOLOGY IS NOT DETERMINED.

Symptomatology: If you have it, no need to tell you. Malaise, prostration, aching in legs and back as in small-pox; headache is severe; in some cases like meningitis, photophobia, nose bleed (most of these cases go into pneumonia). It is painful to move the eyes and many want to sleep. Hyperesthesia is marked; painful to touch, weight of the bedding being uncomfortable. Little delirium in influenza except in complications. Cough not always present. Throat may not feel sore, but red on examina-

tion. Absence of Leukocytosis; usually about 8,000, seldom over 12,000. Influenza seems to take away the power for forming leukocytes, even in pneumonia. Cyanosis is not uncommon. Flushing of the face, neck and chest, often to scarletiform extent (these cases were isolated and some of them peeled). Cervical adenitis in some cases, but not like the scarlet fever adenitis. There was no strawberry tongue, no cross infection of scarlet fever. It was not scarlet fever.

Christian says "every case of influenza is pneumonia." This is not believed to be correct. Certain cases were especially studied, some showing no lung pathology. High temperature with slow pulse, with great prostration, somnolence, and weakness following, some sore throat, some rash. These investigations showed that influenza is not always pneumonia.

Bacteriology: Seventy-five per cent. healthy found to have hemolytic streptococci in throat, bacillus of Pfeiffer often present. Of 400 cultures taken 67 per cent. were streptococci, and 42 per cent. hemolytic. The differential blood counts showed nothing abnormal. The cases often developed bronchitis, this shaded into pneumonia. Every case of influenza is potential pneumonia, every pneumonia is potential empyema.

The wave of pneumonia was due before the influenza showed up. Pneumonia develops five to ten days after influenza attacks. Cases should be kept in bed a reasonable time after the febrile time. The analogy of the relation of pneumonia to influenza is very close to that of measles and pneumonia. They seldom have chills, sputum may be rusty from a bronchial pneumonia from organisms.

Different groups showed difference in mortality. In the spring of 1918, pneumonia so developed that it was hard to differentiate the lobar from the bronchial type. Bronchial pneumonia is often confined to one lobe, influenza is scattered over several lobes. Different types of abnormal breathing are found throughout the lung. There is increased tactile and vocal fremitus and localized rales. It was often thought that pneumonia was present, when it could not be proved.

The urine in influenza cases showed albumin in 20 per cent, and casts in 4 per cent. In

pneumonia showed albumin in 40 per cent. and casts in 20 per cent.

In a series of sputums examined, twenty-two showed pneumococci, twenty-three showed streptococci, five influenza bacilli, nine unsatisfactory. Of the pneumococci all four types were found. Post mortem culture showed fewer type four.

Of 500 blood cultures, 2 per cent. were positive, ten out of eleven being streptococci. Post mortem showed 60 per cent. blood positive. The large variety of sputum findings were due to the flora of the mouth.

The empyema of last spring was the fulminating type. During this epidemic there is no fulminating type of empyema, and no urgent demand for operation. The best results obtained in the empyema cases if operated when the pus became thick. Doubts the existence of unresolved pneumonia and urges to beware of such conclusion. The present mortality is much lower than that accompanying the empyema of the streptococcus epidemic.

Complications: Empyema (some of which are double) sub-phrenic abscess, pyelitis, otitis media, multiple abscess common, emphysema of the tissues, phlebitis (numerous cases) meningitis in several cases. Pneumothorax occurred in several.

DISCUSSIONS.

COLONEL CREIGHTON: The tendency is to call everything influenza. Is especially interested in its prevention. Present epidemic after five days shows change from marked respiratory type. The care of the convalescent very important. Pneumonia frequent if sent out too soon. Controls patient so long as any symptoms are present. Present methods have made it possible for Camp Custer to lead in health of camps for three successive weeks.

COLONEL IRONS: Spoke of control of epidemic which came upon the camp more quickly than civil communities, and subsided quicker. Hospital has had the co-operation of the division and division officers. Team work has made it possible to handle epidemic more efficiently.

Prophylaxis: Specific prophylaxis by injection should be of substance proved to be cause of influenza, believes Pfeiffer bacillus received the name of influenza bacillus from the disease and not the disease from the bacillus. The French do not believe it to be the cause of influenza and many do not accept the relation of Pfeiffer bacillus to influenza. Found 1 per cent. of healthy soldiers had influenza bacillus in throat culture, while in many cases of the disease there are no traces of

influenza bacilli and it has been inconstant. Influenza presents many characteristics not expected in bacterial diseases. It behaves more like exanthemata. These points argue against Pfeiffer bacillus as the cause. Experiments seem to argue against vaccination as a preventative. The use of vaccines during fever lay the patient liable to the development of those germs present.

DR. BOYS asked Major Beals about the duration of convalescence.

DR. SCHOLTEN asked for Major Beals' opinion of vaccines.

DR. ROCKWELL spoke of the discussion of influenza at the recent meeting of the American Public Health Association. He said that men like Park and Woodward say that we are dealing with a disease, the cause of which is unknown. The final report of the committee to consider evidence regarding this was the same. The value of vaccines has not been proven and not practical although some reports seemed favorable, especially in avoiding complications. It was felt that quarantine was not effectual and various methods have been discarded. He described the efforts to keep the disease out of Alaska, and which have been unsuccessful. Infection probably takes place more readily in crowded rooms.

DR. VAN NESS asked about the line of treatment and the outcome of cases isolated because of the scarletiform of eruption.

DR. H. OSTRANDER asked for description of masks used, and as to their use and efficiency.

MAJOR BEALS: Convalescent influenzas are always kept a week before being sent to convalescent companies, while convalescent pneumonias were retained in the hospital. The average time before the development of pneumonia was three days, the average time of fever was 8.4 days, the total time to return to full duty was 39 days.

Doubts the efficiency of vaccines.

One scarletiform case peeled and recovered, one died, autopsy showed pneumonia.

The efficiency of gauze masks depends on the kind, number of layers, number of strands to the mesh and the washing. Six to eight layers to be used. Butter cloth does not need to be used in as many layers. Masks not infallible, but stop some of the infection.

THROMBOSIS OF THE CORONARY ARTERIES.

DR. JAMES B. HERRICK.
CHICAGO, ILLINOIS.

Dr. Herrick thanked the Academy for another invitation to appear before them and remarked that it was on such a visit to Kalamazoo that he first saw the fleuroscopic screen

in use, this being demonstrated by Dr. A. W. Crane.

Obstruction of a coronary artery is not necessarily fatal, as they are not terminal arteries. Through their anastomosis they may continue to function at least for a time. This has been shown by experiment and autopsy, and anastomosis has been shown by anatomists.

Group cases according to clinical symptoms, first, immediate death with an agonal struggle. Second, death a few hours later. Third, severe with death delayed or recovery. Fourth, hypothetical groups showing symptoms which are believed to be obstruction of the finer branches of the coronaries. Symptoms are precordial pain or sometimes pleura-dynia. Obstruction is of more frequent occurrence than commonly supposed.

Clinical Symptoms: Occurs in middle aged or elderly men, usually evidence of arterial and cardiac sclerosis, although in some this is absent. Blood pressure becomes lower. Previous Angina Pectoria may, or may not have occurred. Angina is brought on by excitement and exercise. Pain commonly sub-sternal radiating to arms and neck, though often it occurs beneath the lower sternum with no radiation, this may mislead to a diagnosis of a gastrointestinal or abdominal condition, especially since shock symptoms often ensue. Cases have occurred where operations have been done. Extra systole or partial block apt to occur. Strength may be good. Heart tones may be feeble, sometimes most puzzling. May show evidence of dilatation and murmur. Rales from pulmonary congestion and albuminuria from congestion of the kidneys occur. The mind is usually clear. These symptoms should bring consideration of obstruction of coronary artery. Left coronary artery called "Artery of sudden death."

Fred M. Smith has studied the coronary artery in dogs obtaining the electro-cardiogram of the dog under ether, ligating the coronary artery and obtained electro-cardiograms from a few minutes to weeks after. All of the dogs that died were posted and the heart muscle studied. The electro-cardiograms were compared, electro-cardiograms of the humans were compared with those of known lesion in dogs. The dogs lived days, months or recover after coronary obstruction. The lesion in the muscle

is fairly constant but the most marked effect is in the endocardium and sub-endocardium, affecting the conducting region. Following obstruction various irregularities result, but it is impossible to predict what irregularity will occur. If we can prove that certain obstruction of the artery shows certain cardiograms, then we may be able to get results clinically.

Dr. Herrick illustrated his paper with case reports, slides and photographs.

DISCUSSION.

DR. CRANE: This paper shows the extreme refinements of diagnosis of cardiac lesions. Some would lead us to think that all Angina Pectoris is of syphilitic origin. This paper would disabuse our minds of this idea. This is one of the most remarkable developments in diagnosis when one can

through human ingenuity apply the electro-cardiogram of a known lesion in a dog for comparison with the electro-cardiogram of the humans for the purpose of determining the existing lesion there. The number of heart cases in draftees that have appeared before the Advisory Boards has been amazing and has emphasized the need of cardiac study.

DR. HERRICK: Many cases of Angina have their origin in syphilis but feels that many are not due to syphilis. He believes that every case of aortic aneurism is syphilitic. Is not sure that cases of coronary plug should be called angina pectoris.

Advantage of diagnosis is that it allows us to keep the patient quiet.

Does not want to be understood as saying that these cases can all be diagnosed.

Believes ultimately we will be able to state what part is obstructed or what part of the conducting system is interrupted.

PROPAGANDA FOR REFORM.

Peneguents.—Indiana physicians have been visited by the representative of the American Ointment Company who distributes samples and discourses on "Peneguents." He admits that his preparations have not been accepted by the Council on Pharmacy and Chemistry, but attempts to offset this by a report of the National Research Council which he hands out with other "literature." A glance at the Ointment Company's "literature" makes it clear that its preparations could not be admitted to New and Nonofficial Remedies. The report of the Research Council does not pretend to pass on the therapeutic usefulness of the preparations, but apparently was made to check the statements made in regard to their composition. It brings out that the composition of the ointment base is not divulged by the manufacturer, and that "Peneguent Chlor-Iodine," claimed to contain "Iodine Resub, 5 per cent." contains but 0.37 per cent. free iodine, the remaining iodine having combined with the ointment base. Since the complex and semisecret character of their formulas and the unwarranted claims should have been sufficient to preclude the use of these proprietaries by the U. S. Army, it is difficult to understand why the examination was made (*Jour. Ind. State Med. Assn.*, Oct. 15, 1918, p. 374).

not measure up to the claims made for it (*Jour. A.M.A.*, Nov. 2, 1918, p. 1510).

Spencer's Chloramine Pastilles.—The term "chloramin" is applied to a class of chemical compounds that contain the group: NCl. The chloramine derivative sodium paratoluene-sulphochloramid has been called chloramin-T, "chloramin" indicating the characteristic NCl group, and the "T" derivation from toluene. Sodium parabenzenesulphochloramid has been chloramin-B, the "B" indicating its origin, from benzene. Before chloramin-T and the related products came into use in medicine, John Wyeth and Brother had registered the term "chloramine" as a trademark for a pharmaceutical preparation and applied it to a lozenge containing ammonium chlorid, "Spencer's Chloramine Pastilles," which in no sense is a chloramin. This misuse of a chemical term indicates the need of a revision of our trademark law which permitted the registration of this evidently misleading term (*Jour. A.M.A.*, Nov. 30, 1918, p. 1848).

TWO JOURNALS IN ONE MONTH.

A few weeks ago, we received an announcement from the "Medical Review of Reviews," advising us that they had just purchased the "Buffalo Medical Journal," which was to be consolidated with their own publication in January.

We are just in receipt of another announcement from the "Medical Review of Reviews," advising that they have also purchased "The Southern Practitioner," which will also be consolidated with the "Review" next month.

This is the fourth Journal which the "Medical Review of Reviews" has purchased and consolidated under its present management, and certainly speaks well for the continued success of this publication.

The "Medical Review of Reviews" announces that it hopes to purchase still other medical journals, and will pay cash for any that are for sale.

Dependability of Dosage in Tablets.—One of its products (Aromatic Digestive Tablets) having been reported deficient by the Connecticut Agricultural Experiment Station, the Harvey Company, Saratoga Springs, N. Y., holds that it should not be criticized if its Aromatic Digestive Tablets are below the declared strength. It seems to hold the opinion that it does not matter whether or not these tablets contain the amount of ferments claimed on the label, since in any case these ferments would naturally destroy each other as soon as such a tablet came in contact with the digestive secretion. No excuse can be offered for those physicians who prescribe such absurdities as Aromatic Digestive Tablets, but neither is there any justification for a firm selling a product which it knows will

Transactions and Reports of Detroit Clinics

A PLEA FOR THE INFANT.*

GRANT McDONALD, M.D.
DETROIT, MICHIGAN.

Ladies and Gentlemen:

It is with no apology that I present this subject to you this evening. The slogan "Better Babies" has created a growing interest among the general public, and is of paramount importance to the Medical Profession.

On reviewing the literature on this subject we find that infant mortality under one year has been reduced to a degree that could hardly have been hoped for, mainly through the efforts of the Pediatrics; but the mortality during the first month has not been diminished in the same proportion. It is imperative that the cause for this deplorable condition be sought and most serious thought be given to improving it.

Where should the interest in the infant welfare begin? In pre-natal care, of course.

Expectant mothers should be encouraged to report their condition at the earliest possible date in order that the physician may learn something of their home life, sanitary surroundings, temperament and general physical condition, that medical care and instruction may be given them.

Economic demands have forced many expectant mothers to assist with the fruit of their manual labor in the support of the household and we know that a mother exhausted by long hours and strenuous labor is rarely able to bring a viable child into the world. Alcoholism, Tuberculosis, Syphilis and many other diseases are all adverse influences which may affect the mortality during the first month.

Much consideration indeed should be given every expectant mother. Convince your patient that you have a sincere interest in her welfare. Take time to examine and watch her. Sympathetic attention at this time counts for much—this is a time to plead for "Better Babies."

The practical duty for the physician is to make a thorough physical examination with

pelvimetry, with instruction as to diet, exercise, baths, dress, marital relations, and the emunctory organs—skin, bowels and kidneys—to make routine blood pressure reading and a urinalysis every two to four weeks—a routine Wassermann in every case. Toward the end of pregnancy the position of the fetus must be determined and the physician must insist upon being notified when abnormalities occur.

If the life and health of the infant is of paramount importance, why have a double standard—one for the physician and one for that relic of barbarism—the mid-wife?

How can we, through observing every care, hope to lower the death rate in infants under a month old while we permit the mid-wife to care for about 2-5 of the maternity cases throughout the country?

The question is often asked, what shall we feed the baby the first three or four days, until the mother has enough milk for it? With few exceptions, nature provides sufficient and proper nourishment for the child from birth. The nurse or mother should be instructed to place the child at the breast every three or four hours. Much harm may be done by giving the baby warm sweetened water, either with a spoon or bottle. This may satisfy it to such an extent that, when placed at the breast, the infant will not nurse at all, or in such an indifferent manner that it gives no stimulus to the breast thus causing tardiness of lactation.

The mother's diet should consist of, good wholesome food as soon as she is rested and expresses herself as being hungry. In normal cases she should have a full diet including meats and not entirely excluding acids. There is no danger from a full diet as long as elimination is kept normal. A balanced ration can not be obtained in a liquid diet such as is often given for the first few days. Your patient is tired, hungry, weak and often irritable and if given liquids suffers from engorged breasts, which are an added discomfort; 90 to 95 per cent. of the mothers are able to nurse their babies, but where found necessary to supplement the breast, the feeding should be given immediately after nursing. Do not feed the breast

*Read at the Children's Hospital Meeting of the Wayne County Medical Society, December 1, 1918.

one time and the bottle the next time. Regular nursing stimulates lactation, and even a small amount of breast milk seems to help modify the cow's milk and make it more digestible.

If, having exhausted every effort to keep the baby on the breast and failed, we must turn to adapted feeding—a modified cow's milk formula adapted not wholly to the needs of the baby but to its powers of digestion. We must remember that mother's milk is nature's food for her offspring—its constituents being so arranged as to best meet its needs, while cow's milk is nature's food for her offspring—cow's milk contains inorganic constituents in sufficient amount to supply the demand for the rapid growth and development of the animal, being especially rich in calcium and phosphoric acid substances which the young of the cow uses to develop rapidly growing bone-tissue but which the infant uses very sparingly. Much harm is done to the infant by ignoring these facts. Irreparable injury may be done during the first few days or weeks of the infant's life by giving a formula of one-third to two-thirds cow's milk; 95 to 98 per cent. of the gastro-intestinal cases under one year old in our Children's Free Hospital are of this type. A large majority of these cases have been weaned early and started on too strong a formula. Recently a child came in with a formula of one-third milk and two-thirds lime water, it died within forty-eight hours.

I feel that too much can not be said in criticism of this kind of feeding.

A formula of one-sixth milk, five-sixths water and 6 per cent. sugar or one-fifth milk, four-fifths water and 6 per cent. sugar, is a conservative formula for a new born babe, increasing the strength of the formula with its powers of digestion. When one realizes that 95 per cent. of our serious gastro-intestinal cases come from bottle fed babies, we can understand the necessity of a more intelligent method of feeding a cow's milk formula.

In summing up this subject I would urge that more study be given to prenatal care of the infant and to its feeding during the first month.

Every obstetrician or general practitioner who does obstetrical work, should have a working knowledge of early infant feeding, and the closest co-operation should exist between the obstetrician and the Pediatrician. Our colleges should devote more time to instruction in the care and feeding of the new born.

For only by this teaching and dissemination

of knowledge can we eliminate or educate the mid-wife who is inefficient and unlearned in the principles of infant feeding and the diseases of the new born.

SOME ECONOMIC PROBLEMS IN FEEDING INFANTS AND CHILDREN.*

B. R. HOOBLER, M.D.

DETROIT, MICHIGAN.

The cost of raising a baby has advanced to such a degree that it is given as one of the main reasons for the low birth rate in our American families. A large part of the increase is due to the rise in price of the staple articles of diet of infants viz.: milk and sugar; a certain part of this increase is due to the high prices charged for certain articles of infants' diet which through extensive advertising has become fixed in the minds of the laity as absolutely indispensable.

Manufacture of various products used in infants' and children's diets have greatly increased, each product claiming for itself some peculiar adaptability to sick or well infants. Many of these foods carry with them such minute details as to their use that it seems so simple a thing to feed a baby that many a mother has succumbed to the smooth words of the advertising man. One would judge from the extensive use of certain of these prepared milk products that they must be less expensive than the ordinary foods to merit such general use among those of our people who can ill afford to pay more than necessary. The purpose of this study is to determine the cost of feeding a baby for one year on the various foods offered on the market. These may be roughly grouped as follows:

1. Food products so prepared as to require that water only be added to make them ready to serve.

2. Food products which are to be added to fresh cow's milk properly diluted.

Under the first grouping are the foods whose basis is cow's milk treated in various ways; condensing, malting or drying, with addition of sugars, dextrans or starches. This first-named group is the most enticing to the laity because it eliminates the necessity of the ice box, and requires the minimum of labor to prepare.

Those articles classed under group 2 are the

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refinements of infants' diet, infant luxuries as it were. They are all to be used with fresh cow's milk and each of them claims for itself some specific value in the infants' nutrition. All the "complete infants' foods" grouped under class 1 are accompanied by pamphlets or labels on packages telling how much to use each day during each week or month until one year of age so that by a little computation one may arrive at the cost of feeding a baby for one year on that particular food. The results of such computation reveals some interesting figures. Several brands of condensed and evaporated milk were purchased on the open market. The directions studied. The contents were measured to determine the number of teaspoonfuls or tablespoonfuls, depending on the unit of measure used, in each container. In this way one was able to compute the number of cans used in a year according to the directions. All the data was averaged. The results were as follows: To feed a baby on condensed or evaporated milk for one year would cost about \$85.00 or 23.6c a day.

Various dried or powdered products were studied; a combination of dried milk, wheat flour and wheat malt and sugar, offered as a complete food was studied with the result that one year's food cost \$74.40—cost per day 20.4c.

A standard brand of malted milk was weighed, measured and quantity estimated to be used during the first twelve months according to directions with the following results—cost for one year \$70.50—cost per day, 19c.

Turning our attention to the second group, containing those high priced additions to fresh cow's milk we find on estimating the cost of cow's milk plus the cost of added product made the total cost per year \$68.38, or cost per day 18.7c.

In order to compare cost of feeding a baby for one year on the above food and on grade A cow's milk diluted with water with table sugar added, computation was made based on the minimum amount of milk necessary to maintain protein balance and allow for growth. This is usually estimated at one ounce of cow's milk (top or mixed milk) per pound weight of child, with sufficient sugar added to satisfy the caloric need. This would represent the minimum ration. The computation showed that the fresh cow's milk and table sugar so used would cost \$26.88 or about 7c a day, estimating the price of milk at 13c a quart and granulated sugar at 10c a pound.

This takes into account only the actual milk

used, regarding the balance of the pint or quart left, as being of full value to the family.

The figures are doubled when we allow the maximum quantity of milk per pound weight of child viz.: two ounces per pound and estimating on this basis cost would be \$50.76 or about 14c per day.

When certified milk is used about \$25.00 per year should be added for this protection. If a well known barley flour is used one would add about \$10.00 for a year's supply together with cost of gas for cooking.

Cereal flours when purchased by the can at a drug store are much more expensive than when purchased at the grocery, e. g., oat flour by the can, 60c a pound, in bulk at the grocery 10c a pound.

If the baby requires one of the prepared cereal flours the cost would be \$15.00 extra. If one uses one of the many baby sugars on the market part of whose content is malt sugar, one should figure its cost about \$25.00 over the cost of table sugar. The use of milk sugar is almost prohibitive, its selling price being \$1.25 per pound at the present time.

If one therefore should use certified milk at 20c a quart, diluted with a prepared cereal flour costing 60c a pound and adding to this mixture a malt sugar preparation very commonly used at 75c a pound, the total would cost in round figures \$110.00 or 30c a day. If Grade A or pasteurized milk costing 15c a quart is used with a cereal flour purchased by the pound costing 10c a pound together with table sugar at 10c a pound, the total cost would be \$36.50 or about 10c a day.

There would be the same nutritive value in one diet as in the other but in the first diet one has all the refinements which have been developed for the care of sick as well as of normal children, while in the second there are all the essentials of nutrition but lacking the refinements. In certain cases of deranged nutrition however, these refinements may be necessary.

This study therefore would lead us to believe that it is not the price which causes so many families to resort to canned foods for their babies in preference to fresh cow's milk but rather that it is the ease of keeping and ease of preparing it for their children together with the explicit directions for the use of such foods.

We are constantly advocating the use of fresh cow's milk but the laity have come to realize that it must be diluted in some way and rather

than attempt it by themselves or go to the expense of seeking expert advice they turn to the products which are accompanied by directions for feeding.

It is obvious that if we expect a wider use of fresh cow's milk we must:

First: Constantly urge all agencies, having to do with mothers and infants, to help spread the propaganda concerning its use.

Second: We must write more simple formulas ourselves bearing in mind the cost which we are asking our patients to bear.

Third: We must teach our medical students simple methods of writing formulas and remove from the art the mystery imposed upon it by many rules laid down when the practice of pediatrics was yet in its beginning.

ACUTE MASTOIDITIS, SINUS THROMBOSIS AND BACTERAEMIA WITH RECOVERY, CASE REPORT.*

JACOB S. WENDEL, M.D.

The case I wish to report is one of thrombosis of the lateral sinus and internal jugular vein and invasion of the blood stream by the streptococcus organism, following acute suppurative otitis media and mastoiditis. I do not report the case on account of its rarity, for sinus thrombosis is the most common intracranial complication of otitis media and no doubt most otologists have had experience with similar cases. The case is of interest, however, on account of the typical clinical symptoms, the positive operative findings and satisfactory recovery following operative interference.

Willie C., age 11 years, entered the Ear Department of the Children's Free Hospital September 2, 1918, with an indefinite history of having had pain in the right ear for one week of not sufficient severity, however, to demand the attention of a physician until a few hours before entering the hospital.

Family History—Unimportant.

Previous history, scarlet fever at age of 4 years, no aural complications. No previous history of ear trouble. While riding a bicycle about two months previous, was struck by an automobile and thrown to the pavement. The patient and parents would like to attach significance to this accident as an etiologic factor.

Patient entered hospital with pain in ear, temperature 103.1°, pulse 110, respirations 24. No history of nausea or chills. After entrance temperature rose to 104° and the chart states that the child was nauseated which, however, may have been

due to oleum ricini. When I saw the boy in the morning the temperature was 104°. The physical examination was negative except for the right ear, which showed a red and bulging tympanic membrane with no discharge. There was slight tenderness over the mastoid antrum such as we usually see in otitis media. There was a middle ear type of deafness.

A paracentesis with local anaesthetic was followed by a sero-sanguinous discharge. Within four hours the temperature dropped four degrees and remained below 102° on that and the following day, and his condition was good except for two slight chills. On the following morning the temperature rose abruptly to 103.8° and dropped to 98° within eight hours. There was no chill. At this point I suspected sinus trouble.

An X-ray of the mastoids showed large pneumatic cell type mastoids and a report was returned of mastoiditis of the first degree on the right side. A leucocyte count showed 9,560 white cells with 85% polymorphonuclears. On the following day the temperature again rose abruptly and the patient became drowsy and appeared septic. With a history of otitis media, slight mastoid tenderness, chills, remittent pyaemic temperature, and a high polymorphonuclear leucocyte count, a diagnosis of mastoid infection and sinus absorption was not difficult.

On the 7th, four days after the paracentesis, during which time the ear had been draining, I did a complete mastoid operation intending, if indicated, to explore the sinus. The mastoid cavity was in the congested stage except for a few large cells below the knee of the sinus, which contained pus. The bony sinus wall appeared firm, and the sinus was not exposed. Later developments showed that this was a mistake.

Patient made good recovery from ether anaesthesia and seemed brighter on following day; the following night, however, temperature again rose to 103°. Culture of pus from mastoid showed a long chain streptococcus in pure culture.

September 9th, two days after mastoid operation, the patient was drowsy and appeared extremely septic. Temperature 103.8°. A blood culture was taken and the possibility of other sources of infection was considered such as central pneumonia and pyelitis. Dr. Hoobler was asked to see the patient and reported the chest negative. The urine was negative. The leucocyte count on this day was 17,000 with 75% polymorphonuclears.

I determined to explore the lateral sinus and if necessary ligate the internal jugular vein.

On uncovering the sinus I found it covered with plastic exudate in the region of the knee, infection, evidently having extended from the mastoid by way of minute connecting veins. On incising the sinus wall I found the sinus completely thrombosed with blood clot and pus. After exposing the sinus thoroughly I was able to get bleeding from the proximal end, but probing toward the jugular bulb was unsuccessful. I then ligated the internal jugular vein and collaterals and resected about two inches. A pathological examination of the resected vein showed a thrombosed vein wall. The proximal end of the vein was brought to the skin edges

*Read at the Children's Hospital Meeting of the Wayne County Medical Society, December 1, 1918.

in order to irrigate through from the bulb at a later date, if necessary. Blood culture reported positive for streptococcus on following day. The patient made a slow but otherwise uneventful recovery except for local infection of the neck wound. The temperature maintained the remittent pyaemic type for ten days, evidently due to infection in the blood stream previous to ligation of the jugular and from absorption from infected neck wound. The patient was able to be up in seventeen days and left the hospital in a month to return to the Out-patient Department for dressings. The mastoid and neck wounds have since healed completely; the ear is dry and the hearing normal.

From the standpoint of diagnosis this case was not difficult for it follows very closely the usual text book description. Otitis media followed by mastoid tenderness, chills, remittent pyaemic fever and marked sepsis. The rapidity with which the infection extended, however, is rather unusual; within one week from the time the physician was called for earache the lateral sinus and internal jugular vein were thrombosed.

There are several diagnostic points to which I wish to call your attention. The temperature followed very closely the remittent pyaemic course, which we usually find described as typical for sinus involvement. It was characterized by sharp fluctuations ranging from 98° to 104° in a few hours. The change was so sudden in fact that it might have been overlooked if the temperature had not been taken every two hours. These sharp rises in temperature, which were probably coincident with the release of fresh emboli were in some cases accompanied with chills.

Malaria, typhoid fever, central pneumonia and pyelitis must be considered in making a differential diagnosis.

The importance of a differential white blood cell count is shown very clearly. The first blood examination showed 9,560 white cells with 85 per cent. polymorphonuclears. A high polymorphonuclear count is the rule in these cases. The blood picture was followed closely in this case and was affected very quickly by the presence of pus in the wound or blood stream. The day following the ligation the polymorphonuclear count dropped to 62 per cent. and rose to 80 per cent. a few days later, due to local wound infection.

The positive blood culture is an important diagnostic point. A negative culture, however, does not rule out sinus thrombosis since it has been found that the blood culture may vary with the stage of the thrombosis. In the early stage we expect a positive culture, later it may

be negative and still later when the thrombus begins to disintegrate it usually becomes positive again.

This case is interesting from the standpoint of treatment since the patient recovered quickly without developing metastatic foci, a common complication in sinus cases. The prognosis in these cases is always grave, usually terminating fatally in unoperated cases, by sepsis, meningitis or metastatic foci. A few cases of organization of the thrombus with recovery have been reported. When one is able to get free bleeding from both ends of the sinus, simple drainage of sinus is often sufficient.

Transfusion with human blood or blood serum, in order to increase the resistance of the patient, following ligation of the jugular, has been employed with good results. I have seen several cases treated in this manner.

Regarding the use of vaccines or serums in the treatment of sinus thrombosis I am unable to speak since I have never observed cases treated in this manner.

I think otologists are quite well agreed that having a thrombosed sinus from which free bleeding can not be secured, with clinical symptoms of sepsis, the only logical procedure is to ligate the internal jugular vein. By doing this the entrance of the metastatic infective emboli into the general blood stream is prevented, and the body is free to combat the infection already present. Many advocate ligating the jugular immediately on finding the sinus thrombosed and their contention is good, for in probing the bulb one is very likely to dislodge fresh emboli which may set up metastatic foci in the joints, lungs, endocardium, etc.

My personal opinion is that an early drainage of the sinus, ligation of the internal jugular vein and removal of the infected thrombus is the most satisfactory treatment.

JACOB S. WENDEL, Associate Attending Otol-
ogist, Children's Free Hospital.

A CASE OF CONGENITAL PTOSIS.*

HOWELL L. BEGLE, M.D.
DETROIT, MICHIGAN.

Malformations and failures in development are frequently observed in a clinic or hospital for children. While they are always of interest, it is unfortunate that we can not do more to remedy them. Dr. LaFerte has spoken of the

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various forms of spina bifida that he has encountered at the Children's Free Hospital. I wish to present a little patient who exhibits a failure of development in that she is unable to elevate the upper eye-lids sufficiently. The lids droop and she has a sleepy expression. Vision is interfered with for while the pupil lies in the palpebral space when she looks downward it is covered by the lid when she looks upward.

The condition is designated congenital ptosis and results from lack of development of the levator muscles. Unlike acquired ptosis, resulting from paralysis of the third nerve, both eyes are usually affected. Sometimes a few fibers of levator muscles are apparently present for the eye-lids can be partially raised by them but in this case I have not been able to demonstrate any action by the muscles.

Very early in life children with congenital ptosis learn to use the frontalis muscle to partially open the eyes. By contraction of this muscle the eye-brows are raised and with them to a varying extent the lids. Therefore one observes skinfolds on the foreheads of these patients. Moreover if the head is tipped backward while the patient looks downward the pupil is not covered by the lid and relatively high objects can be seen.

I have performed the so-called Hess operation on the right upper lid in this case. An incision was made along the entire length of the eye-brow. The skin of the upper lid was dissected loose to the lid-margin. Three doubled-needled sutures were then introduced through the lid near the lid-margin and were brought out through the skin of the forehead a few centimeters above the brow where they were tied over gauze rolls. The original incision was then closed. The sutures were left in place for two weeks. The aim of the operation is to cause a growth of connective tissue along the threads and form tendinous outshoots from the frontalis to the skin of the lid thus reinforcing the action of that muscle. Moreover the lid may be slightly folded and shortened.

In this case I have not been successful in producing a fold but you will note that the patient, when she tries, is able to open the right eye much wider than the left. I am told by her sister that she no longer tips her head backward when looking at objects but is able to see them through the increased frontalis action. The operation has therefore helped matters and one can feel encouraged to try the same procedure on the other side.

GANGRENE OF THE FOOT FOLLOWING "SPANISH INFLUENZA."

JOSEPH H. ANDRIES, F.A.C.S.
DETROIT, MICHIGAN.

Mrs. V.—, age 47, entered St. Mary's Hospital, Detroit, on November 25, 1918. Referred to the surgical department from the service of Dr. Neal Hoskins.

Father died at the age of 85 from senility. Mother died at the age of 50 from "bronchitis, which lasted seven years." One brother and one sister living and well. History of cancer, tuberculosis or syphilis negative. Has not menstruated since 17 years of age. Had two spontaneous miscarriages and no children.

Patient suffered with chronic constipation. There were some rales on the right side of thorax in the region of the fourth and fifth rib in the mid-clavicular line.

Pulse Rate—80, quality feeble. *Temperature* normal. *Systemic circulation*; a slight



Gangrene Due to Thrombosis of Right Popliteal Vein.

mitral systolic murmur and a diastolic mitral roughness.

Present disease began three weeks ago and treatment to date was symptomatic.

Urinalysis—Specific gravity 1026. Slight trace of albumin and a large number of pus cells. Otherwise negative.

Blood Count—Erythrocytes 4100000, Leucocytes 12000, Polymuclears 82 per cent., large lymphocytes 4, small 14. Wasserman test negative.

Past History—Had an operation for umbilical hernia on June 10, 1914. On October 1, 1914, gall bladder was removed and "several other things done," the nature of which she does not know. On October 29, 1914, she had twenty-four teeth extracted. March 1, 1915, she was operated upon for "lacerations" and prolapse of the uterus. On August 2, 1915, she had "small tumors removed" from the rectum. Says she was confined to bed during the greater part of the time from June 10, 1914,

to March 19, 1916. Two years ago she fell out of an automobile causing an indefinite injury to the right knee and a sprain of the right ankle. Since that time her knee was painful at times and especially when in bed (at night.)

Present disease began about three weeks ago (before time of operation). Three weeks before beginning of the present disease she had "Spanish Influenza" which left her very weak. No history of pneumonia obtainable, but says she had fever, cough and bloody sputum. This condition continued about three weeks in all and she felt well enough to leave her bed. In attempting to get up she had severe pain in both legs and feet and also from the hip downward. She was unable to walk back to bed and had to be carried. On the following day she had a recurrence of the same pain upon rising. The pain in the left leg gradually disappeared and localized in the right leg and later principally in the right foot. Within a few days the foot became discolored and black. Discoloration of lesser degree extended up to the knee joint. There was a painful and tender bulging in the popliteal space.

Diagnosis—Gangrene due to septic thrombosis of popliteal vein.

On November 27, 1918, 9:00 a. m., amputation was performed at the upper third of femur. Patient left the operating table in good condition. On the morning following the operation temperature was 100 and pulse 132 and there was considerable pain in the stump. On November 29, 1918, patient was jaundiced in a state of collapse and the stump was becoming gangrenous. Died November 29, 1918, at 5:30 p. m.

The phlebitis extended well up into the middle of the femoral vein. The vein was excised and the thrombotic material sent to the laboratory for bacterial examination; the culture showed no growth.

REPORT OF A CASE OF PERNICIOUS ANAEMIA.

WALTER J. WILSON, JR., M.D.

DETROIT, MICHIGAN.

Attending Physician St. Mary's Hospital, Detroit.

In these days, when so much is being said and done for patients with pernicious anaemia by means of blood transfusion frequently repeated, we think it worth while to report the following case which shows what may be done by simple measure in certain cases.

The patient W. J. came in from Pontiac,

Michigan, and was admitted to St. Mary's Hospital July 8th, 1918, on our medical service. At the time of entrance he was very weak, and confined to bed. His chief complaint was weakness and pains in the abdomen.

Family History—Father died of pneumonia at 86. Mother died of paralysis at 76. Brother died of blood poisoning. Two sisters are living and well, three dead of unknown causes.

Patient's History—Measles, mumps, whooping cough, inflammation of the lungs, malaria. Married, wife living and well. One child died in infancy.

Patient's Illness—Began two years ago with expectoration of a matter like substance, which gradually disappeared. He began to feel weak eighteen months ago, felt cold and could not walk on account of shortness of breath.

Patient's Examination—Shows a man with lemon colored appearance of the skin, and with no emaciation. The mucous membranes are all pale. The gums are somewhat retracted from the teeth. There are no palpable glands except in the groin, but there is slight thyroid enlargement. The heart examination revealed a systolic murmur at the apex and left base. The lungs are clear. The spleen is enlarged and palpable, the area of the spleen and liver tender.

Blood examinations done the same day yielded the following results:

Erythrocytes	1,150,000	per c.mm
Leucocytes	4,500	per c.mm
Polymorphonuclears	64%	
Large Lymphocytes	15	
Small Lymphocytes	19	
Eosinophiles	1	
Mast Cells	1	
Hemoglobin	26%	
Color index	1.1	
Red cells show marked anisocytosis (about 60% are megalocytes)		
Some show poikilocytosis.		
Occasional normoblast.		
Occasional megaloblast.		

On July 31st, the following report of the blood was filed.

Erythrocytes	2,400,000	per c.mm
Leucocytes	6,000	per c.mm
Polymorphonuclears	68%	
Large Lymphocytes	12	
Small Lymphocytes	19	
Eosinophiles	.5	
Mast Cells	.5	
Hemoglobin	48%	
Color Index	1	
Anisocytosis		

Slight Poikilocytosis.

No Nucleated Red Cells found.

August 20th, the total red count was 3,324,400, total white was 7,600.

July 13, 1918, the Wasserman reaction was negative: August 17, 1918 no parasites or ova were found in the faeces.

The urinary examination on July 9th, 1918, showed a sp. gr. of 1011, acid reaction, a very fine trace of albumin, with a good many hyaline casts, sugar not being found.

The patient left the Hospital October 11, 1918, very much better. After thirty days treatment he was able to go out, take short trips to his home, being about all day long. He had been sent in with the idea that little could be done for him. He left the Hospital much pleased, and greatly surprised his friends who had not expected to see him alive again. Success in the treatment began with measures instituted to control diarrhea, for this purpose tinct. opii camph. in dram doses being given four times a day with bismuth subnitrate gr. ten given at the same intervals. From the beginning ten minim doses of dilute hydrochloric acid were administered with his meals, and Fowler's solution given, beginning with one drop doses three times a day increasing one drop a dose a day until twenty drops three times a day were reached, when there would be a discontinuance of the treatment for a few days. Then the Fowler's solution would again be given in the same way. For the last three weeks in the Hospital, he had no diarrhea, and no treatment along this line was necessary. While we expect no permanent improvement in the case, the temporary relief which the described drug measure afforded, should stimulate us to keep on trying in these cases, as these efforts will many times reward us in the prolongation of our patients lives for a considerable period.

CASE HISTORIES—CEREBRO-SPINAL SYPHILIS.

FRANK R. STARKEY, M.D.
DETROIT, MICH.

CASE No. 3967. The patient, aged 36 years, here described is of interest specially, because he came first to the rhinological clinic complaining of an obstruction of the left nostril and was entirely unaware of his grave neurological condition. This however, was suspected

by Dr. A. O. Brown who referred him to my service.

Upon examination it was found his chief complaint was an almost total obstruction of the left nostril and dimness of vision of the left eye, which condition had existed for ten or twelve years.

Past History—Typhoid fever at eighteen years; denies all other illnesses and is especially emphatic in denying venereal disease. Claims he was raised on a farm in this County, in a strict religious family and never had intercourse with any one except his wife, who was also raised on a farm in this County and under strict religious discipline.

Family History—Negative. Mentioned that his wife died at Ann Arbor from injuries incident to a fall down stairs. Upon questioning, he stated she had "received injections into her spine" while at Ann Arbor.

Examination—Rather nervous; well nourished; slightly bald; dark complexion; partial ptosis of left eye-lid; some difficulty in comprehending questions and slowness in answering; pupils unequal and irregular; do not respond to light but do to accommodation; knee jerks absent; dysmetria of upper extremities; Romberg positive; gait ataxic, slightly, with eyes open, more so with eyes closed and very marked, blindfolded; sense of position greatly impaired; bone conduction normal; difficulty in pronouncing test phrases; memory for recent events slightly impaired; Wasserman of blood, four plus.

Diagnosis—Tabo-paresis—I wrote to Doctor Barret of Ann Arbor, under whose care patient's wife was while there, regarding her condition and his reply was that she had been treated for neuro-syphilis.

CASE No. 3932. At first sight this seems to be a very simple case but upon close observation presents rather interesting features.

Teamster; aged 57 years, came to my service at St. Mary's Hospital complaining of dimness of vision, headaches and some difficulty in turning sharply, which he attributed to "dizziness" and "lightheadedness." Sometimes has diplopia and lightning like pains in arms, and constipation.

Past History—All diseases of childhood, including scarlet fever; typhoid at sixteen years; syphilis at fifty-one, chancre but no secondary rash. Had been a heavy user of alcohol for years.

Family History—Father died at sixty-two of "softening of the brain," heavy drinker; one maternal uncle died of T. B. otherwise negative.

Examination—Face apathetic; marked arcus senilis; tremor of face about mouth when attempting to speak; tremor of tongue and hands; pupils unequal and irregular, right larger than left, react sluggishly to light, react to accommodation, optic atrophy of right eye, vessels of left small and tortuous showing arterio-sclerosis; pyorrhea; knee jerks prompt; no Romberg; lumbering gait; blood pressure, sys. 180; dia. 102; unable to pronounce correctly Methodist Episcopal and unable to spell the words after the examiner; memory for recent events slightly impaired; writes his name very poorly and with much difficulty; Wasserman of blood and spinal fluid four plus; seven cells to cmm. cerebro spinal fluid; globulin, pos-

itive. Here is a case that looks very simple and in which we might readily make a diagnosis of paresis on the above data but upon further examination into the history of the patient it was learned that he had always had an impediment in his speech and was unable to say Methodist Episcopal and similar words. His tremor could be accounted for by his alcoholism and the arterio-sclerosis present. The difficulty in spelling the words Methodist Episcopal after the examiner and his poor penmanship can be accounted for from the fact he never knew how to spell, read nor write with the exception of his own name. The cell count, 7 cells to cmm., can be considered within normal. The Lange colloidal gold test, which is the decisive factor in this case, did not show paretic curve, therefore, I think we must believe this to be a case of cerebro-spinal syphilis with arterio-sclerosis and not incipient paresis.

813 Kresge Med. Bldg.

THE PREVENTION OF SIMPLE GOITRE BY ADMINISTRATION OF IODINE.

In the "Archives of Internal Medicine" for July, Kimball and Marine have brought forward cogent evidence that "simple goitre is probably the easiest of all known diseases to prevent." Their method is the administration of small doses of iodine. Iodine is, of course, an old and most important remedy in the treatment of goitre, but its prophylactic use seems to be entirely new. A census of the condition of the thyroid gland of all girls from the fifth to the twelfth grades in the schools of Akron, Ohio (evidently a very goitrous district), was made. In April, 1917, 3872 girls were examined, and the condition of the thyroid gland was found to be in percentages as follows: normal, 43.5; slightly enlarged, 49.8; moderately enlarged, 6.3; markedly enlarged, 0.18; adenomas, 1. In May, 2 g. of sodium iodide were given in 0.2 g. doses each school day to a number of pupils in grades from the fifth to the eighth, and 4 g. in 0.4 g. doses to pupils in the higher grades. In November the pupils taking the treatment were re-examined, with the following results: Of 283 normal thyroids on the first examination all had remained normal; 287 small goitres had remained unaltered; 141 small goitres had disappeared; 2 small goitres had increased; 34 large goitres had remained unaltered; and 17 had decreased. On the other hand, in pupils not taking the treatment 637 normal thyroids had remained normal and 259 showed slight goitre; 759 small goitres had remained unaltered, 10 had disappeared, and 103 had increased; 106 large goitres had remained unaltered and 5 had decreased. Thus, not a single pupil with a normal thyroid who took iodine showed an increase, while 26 per cent. of those who did not showed definitely enlarged thyroids—some moderately large goitres. More than prophylactic results were obtained. One-third of the small goitres had disappeared and one-third of

the "moderate" showed a decrease of 2 cm. or more. Of 1000 girls who took the treatment only 5 developed any noticeable rash, and this was evanescent. The possibility of producing Graves's disease by the treatment was considered, but no evidence of this was observed. As the results were so definite, when the treatment was repeated in November, 1917, only 2 g. of the iodide were given to the pupils in the higher grades. At the time of making this report it was intended to repeat the treatment in April, 1918.—Lancet, August 17, 1918.

Value of Vaccination Against Influenza.—There is no conclusive evidence that the Pfeiffer bacillus plays any greater role, if as great, in the present epidemic than any other bacteria found in the respiratory tract in this disease. Also, the influenza bacillus is a very poor antigen. There is, in fact, nothing to show that definite antibodies against this bacillus develop in the course of influenza. Animal experiments show that it requires prolonged immunization before any response becomes apparent. Again, there is no record of controlled experiments on human beings with influenza vaccine. From this it is evident that vaccination against influenza is in a wholly experimental stage (*Jour. A.M.A.*, Nov. 9, 1918, p. 1583).

Kennedy's Tonic Port.—Kennedy's Tonic Port was booze sold as "patent medicine." Its conflict with the law came when a bottle of the preparation was sold at a Regina drug store in November, 1917, in that the sale of alcoholic beverages is prohibited in Saskatchewan. The Saskatchewan authorities proceeded against this concern, and the drug store proprietors were convicted and fined. They appealed the case, but the judge before whom the appeal was heard decided against the concern and increased the fine. Booze is booze in Saskatchewan (*Jour. A.M.A.*, Nov. 23, 1918, p. 1763).

Official Minutes
of the
Mid-winter Meeting of the Council
Detroit, January 7, 1919

The regular mid-winter meeting of the Council of the Michigan State Medical Society was called to order by the Chairman, Doctor W. J. Kay at the Hotel Fort Shelby, Detroit, on the 7th of January, 1919, at 9:30 A. M. with the following Councilors present:

- Doctor S. K. Church, Third District.
 - Doctor J. B. Jackson, Fourth District.
 - Doctor W. J. DuBois, Fifth District.
 - Doctor W. G. Bird, Sixth District.
 - Doctor W. J. Kay, Seventh District.
 - Doctor A. L. Seeley, Eighth District.
 - Doctor F. Holdsworth, Ninth District.
 - Doctor J. McLurg, Tenth District.
 - Doctor C. T. Southworth, Fourteenth District.
- The following Councilors were absent:
- Doctor G. L. Keifer, First District.
 - Doctor E. W. Toles, Second District.
 - Doctor W. T. Dodge, Eleventh District.
 - Doctor R. S. Buckland, Twelfth District.
 - Doctor F. C. Witter, Thirteenth District.

The President, Doctor A. M. Hume, and the Treasurer, Doctor D. Emmett Welsh were also in attendance.

The minutes of the last meeting of the Council as published in the Journal were approved.

Doctor Welsh, in the absence of the Secretary-Editor, Doctor F. C. Warnshuis, presented the following report:

I herewith submit a general and itemized statement of the funds of the Society and expenditures during the year 1918:

January 4, 1919.

To the Council of the
Michigan State Medical Society.
Gentlemen:

I have completed the examination of the books and accounts of the Michigan State Medical Society for the year ended December 31, 1918, and am pleased to submit the following exhibits:

Exhibit A.

Certificate of Deposit	\$1,000.00	
Liberty Bond Account	4,500.00	
Bond Account	4,300.00	
Accounts Receivable	846.33	
The Grand Rapids Savings Bank	97.47	
Journal Expense	5,956.75	
State Society Expense	1,977.96	
Annual Meeting Expense	961.71	
Reprint Expense	482.95	
Council Expense	142.04	
Secretary's Expense	80.93	
Loss and Gain Account	18.33	
Present Worth Account		\$10,025.19
Advertising Sales		3,641.39
Journal Subscriptions		3 500.75
Membership Dues		2,181.00
Interest Received		505.75
Reprint Sales		470.15
Outside Subscriptions		32.24
Sale of Extra Journals		4.00
Defense Fund		4.00
	\$20,364.47	\$20,364.47

Exhibit B.

Statement of Revenue and Expenses for 1918.

Revenue—		
Advertising Sales	\$3,641.39	
Journal Subscriptions	3,500.75	
Membership Dues	2,181.00	
Interest Received	505.75	
Reprint Sales	470.15	
Outside Subscriptions	32.24	
Sale of Extra Journals	4.00	\$10,335.28
Expense—		
Journal	\$5,956.75	
State Society	1,977.96	
Annual Meeting	961.71	
Reprints	482.95	
Council	142.04	
Secretary's	80.93	
Three Bad Advertising Accounts charged off	18.33	
		\$ 9,620.67
Net Gain for the Year 1918 ...		\$ 714.61

Exhibit C.	
Balance Sheet January 1st, 1919.	
<i>Assets.</i>	
<i>Current—</i>	
Accounts Receivable	\$ 846.33
Checking Account at G. R. Savings Bank	97.47
	<hr/>
	\$ 943.80
<i>Securities (In Custody of Treasurer.)</i>	
Liberty Bond Account	\$4,500.00
Masonic Temple Bonds	2,300.00
Citizens Telephone Co. Bonds	2,000.00
Certificate of Deposit	1,000.00
	<hr/>
	\$ 9,800.00
Total Assets	<hr/>
	\$10,743.80
<i>Liabilities.</i>	
<i>Current—</i>	
Due Defense Fund	\$ 4.00
	<hr/>
	\$ 4.00
Net Present Worth	<hr/>
	\$10,739.80
<i>Present Worth.</i>	
Represented by January 1st.	
1919	\$10,025.19
Net Gain for 1918	714.61
	<hr/>
	\$10,739.80

The checking account at the Grand Rapids Savings Bank was reconciled as of December 31, 1918.

The securities in the custody of the Treasurer, Doctor D. Emmett Welsh, were exhibited to me and found to be correct.

Am pleased to advise for your information that the books and accounts of the Michigan State Medical Society are in good condition and the above Balance Sheet, Exhibit C, in my opinion represents the true financial position of the Michigan State Medical Society as of January 1st, 1919.

Thanking you for the work, and awaiting your further instructions, I am

Yours very truly,
WALTER H. SHULTUS,
Certified Public Accountant.

JOURNAL EXPENSES. 1918	
<i>JANUARY—</i>	
Tradesman Co., Journals and Wrappers	\$367.00
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	27 50
Postmaster, Mailing Journals	9.15
Twentieth Century Clipping Bureau	3.50
James S. Crosby, Insurance	3.00
	<hr/>
	\$ 495.15

<i>FEBRUARY—</i>	
Tradesman Co., Journals and Wrappers ..	\$283.20
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	27.50
Postmaster, Mailing Journals	6.67
Twentieth Century Clipping Bureau	3.50
	<hr/>
	\$ 405.87
<i>MARCH—</i>	
Tradesman Co., Journals and Wrappers ..	\$342.78
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Postmaster, Mailing Journals	7.69
Twentieth Century Clipping Bureau	3.50
Miss Bond, Refund of Int. on Liberty Bd.	1.80
Grand Rapids Typewriting Company	2.60
	<hr/>
	\$ 473.37
<i>APRIL—</i>	
Tradesman Co., Journals and Wrappers ..	\$509.23
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Postmaster, Mailing Journals	12.33
Twentieth Century Clipping Bureau	3.50
Grand Rapids Typewriting Company	1.60
	<hr/>
	\$ 641.66
<i>MAY—</i>	
Tradesman Co., Journals and Wrappers ..	\$630.95
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Postmaster, Mailing Journals	7.48
Twentieth Century Clipping Bureau	3.50
	<hr/>
	\$ 756.93
<i>JUNE—</i>	
Tradesman Co., Journals and Wrappers ..	\$308.42
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Postmaster, Mailing Journals	7.21
Twentieth Century Clipping Bureau	3.50
	<hr/>
	\$ 434.13
<i>JULY—</i>	
Tradesman Co., Journals and Wrappers ..	\$188.75
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Twentieth Century Clipping Bureau	3.50
Grand Rapids Typewriting Company ..	5.25
	<hr/>
	\$ 312.50
Less Amount Received for Old Paper	1.75
Less Amount Received for Old Plates	17.04
	<hr/>
	\$ 18.79
	<hr/>
	\$ 293.71
<i>AUGUST—</i>	
Tradesman Co., Journals and Wrappers	\$308.30
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Postmaster, Mailing Journals	5.02
Twentieth Century Clipping Bureau	3.50
	<hr/>
	\$ 431.82
<i>SEPTEMBER—</i>	
Tradesman Co., Journals and Wrappers	\$382.75
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	18.00
Miss Wertz, Salary	12.00
Postmaster, Mailing August and September Journals	15.74
Twentieth Century Clipping Bureau	3.50
Citizens' Telephone Company	2.15
	<hr/>
	\$ 519.14

OCTOBER—

Tradesman Co., Journals and Wrappers	\$373.43
Doctor F. C. Warnshuis, Salary	75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Wertz, Salary	30.00
Twentieth Century Clipping Bureau	3.50

\$ 491.93

NOVEMBER—

Tradesman Co., Journals and Wrappers	\$291.40
Doctor F. C. Warnshuis, Salary	75.00
Powers Theatre Bldg. Association, Rent	10.00
Miss Wertz, Salary	30.00
Postmaster, Mailing Journals	8.08
Postmaster, Stamps	15.00
Twentieth Century Clipping Bureau	3.50
Grand Rapids Typewriting Company	6.80
American Medical Association Directory	10.00
Therapeutic Gazette (Exchange)	2.00
Minnesota State Medical Journal	2.00
New York State Journal of Medicine	2.00

\$ 455.78

DECEMBER—

Tradesman Co., Journals and Wrappers	\$431.47
Doctor F. C. Warnshuis, Salary	75.00
Powers Theatre Bldg. Association, Rent	10.00
Miss Wertz, Salary	30.00
Postmaster, Mailing Journals	6.19
Twentieth Century Clipping Bureau	3.50
Grand Rapids Typewriting Company	1.10

\$ 557.26

\$5,956.75

STATE SOCIETY EXPENSE, 1918.

JANUARY—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Doctor D. Emmett Welsh, Honorarium	100.00
Postmaster, Postage	25.00
James S. Crosby Co., Insurance	3.00
Powers-Tyson Printing Co., Certificates	12.50
Miss Bond, Salary	27.50

\$ 253.00

FEBRUARY—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Doctor F. C. Warnshuis, Refund on	
Check pro.	40.00
Miss Bond, Salary	27.50
Postmaster, Mailing Certificates	50.00
Powers-Tyson Printing Co., Letter Heads	19.35
Bixby Office Supply Company	.60
Tisch-Hine Co., Ledger Sheets	1.80

\$ 224.25

MARCH—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Macey Company, Book Cases	27.00
Powers-Tyson Printing Co., Report Blanks	18.00
Barlow Brothers, Binding Journals	15.00
Travelers' Ins. Co., Insurance on Clerk	10.00
Michigan State Telephone Company	1.85
Bixby Office Supply Company	3.25

\$ 190.10

APRIL—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Doctor F. C. Warnshuis, Refund on	
Telephone	1.70
Miss Bond, Salary and Expenses	30.29
Postmaster, Mailing Certificates	25.00
Bixby Office Supply Company	.35
Patriotic Fund Refund	\$31.12
Less Interest	.37
	30.75

\$ 173.09

MAY—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Mr. W. H. Shultus, Auditing Books	25.00
Postmaster, Stamps	25.00
Powers-Tyson Printing Co.	6.50
Bixby Office Supply Company	3.70
Western Union Telegraph Co.	1.15
Grand Rapids Typewriting Company	1.75

\$ 178.10

JUNE—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Western Union Telegraph Company	14.52
Michigan State Telephone Co.	1.15
Grand Rapids Typewriting Company	1.75
Tradesman Company, Reports for M.	
R. C. Drive	8.00
Citizens' Telephone Company	.65

\$ 141.07

JULY—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Miss Bond, Expense	.75
Powers-Tyson Printing Company	43.00
Bixby Office Supply Company	.35
Michigan Department of State	4.20
Western Union Telegraph Company	2.36

\$ 165.66

AUGUST—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	30.00
Grand Rapids Typewriting Company	2.60
Western Union Telegraph Company	.43
Bixby Office Supply Company	.30

\$ 118.33

SEPTEMBER—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Bond, Salary	18.00
Miss Wertz, Salary	12.00
Postmaster, Stamps	25.00
Western Union Telegraph Company	.86

\$ 140.86

OCTOBER—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Wertz, Salary	30.00
Michigan State Telephone Company	2.10
Citizens' Telephone Company	.85
J. A. Thompson, Typewriter Ribbon	.75
Bixby Office Supply Company	.20

\$ 118.90

NOVEMBER—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Doctor F. C. Warnshuis, Rent	10.00
Miss Wertz, Salary	30.00
Postmaster, Stamps	5.00

\$ 120.00

DECEMBER—

Doctor F. C. Warnshuis, Salary	\$ 75.00
Powers Theatre Bldg. Association, Rent	10.00
Mrs. F. C. Warnshuis, Refund on Rug	30.00
Miss Wertz, Salary	30.00
Postmaster, Stamps	5.00
Western Union Telegraph Company	2.60
Fitzsimmons Bros.	2.00

\$ 154.60

\$1,977.96

ANNUAL MEETING, 1918.

Grand Rapids Typewriting Company	\$ 1.75
J. H. Brown, Photo and Story of Batte Creek	19.00
Doctor F. C. Warnshuis	11.09
Western Union Telegraph Company	2.61
Doctor F. C. Warnshuis	12.34
Captain Joseph Rosenfield, Dinner	25.00
Post Theatre, Rent	75.00
Captain T. D. Gordon, Dinner	18.00
Tradesman Co., Tickets and Registration ..	11.50
W. E. Cornell, Reporting General Session ...	7.50
Robbins Company, Badges	169.33
Powers-Tyson, Signs	12.50
Phoenix Company, Tickets	2.25
Doctor A. P. Biddle	5.00
Gage Printing Company	4.75
Mrs. Bismark, Registration Booth	4.00
Miss Wilbur, Registration Booth	4.00
Miss Bond, Expenses	7.84
Post Tavern	173.45
Tradesman Co., programs	67.70
Curwin Sign Co., Signs	12.50
Mr. L. Milner, Band	21.00
J. C. Adams, Operating Lantern	1.60
W. T. Semlow, Decorating	40.00
Doctor F. C. Warnshuis, Refund, Mess Fund ..	200.00
Masonic Temple Association	60.00
	<hr/>
	\$ 969.71
G. C. Chene, Refund	8.00
	<hr/>
	\$ 961.71

COUNCIL EXPENSE.

DETROIT, 1917—	
Doctor C. H. Baker	\$ 10.07
GRAND RAPIDS, 1917—	
Doctor W. T. Dodge	4.25
BATTLE CREEK, 1917—	
Doctor Du Bois and Doctor Welsh	11.00
DETROIT, JANUARY, 1918—	
Western Union Telegraph Company	5.02
Hotel Statler	20.75
Doctor Du Bois	22.00
Doctor Baker	10.60
Doctor Dodge	26.00
Doctor Warnshuis	22.00
A. F. Crabb, Flowers to Doctor McMullen ..	10.35
	<hr/>
	\$ 142.04

SECRETARY'S EXPENSE.

Doctor F. C. Warnshuis,	
Battle Creek, 1-8-'18	\$ 5.74
Port Huron, 5-30-'18	13.94
Chicago, A.M.A. Meeting	61.25
	<hr/>
	\$80.93

The following figures cover a period of six years:

	Journal Cost	Adv. Receipts	Net Worth
1918	\$5,956.75	\$3,641.39	\$10,739.80
1912	3,821.90	1,851.92	5,427.46
	<hr/>	<hr/>	<hr/>
	\$2,134.85	\$1,789.47	\$ 5,312.34

COMPARATIVE STATEMENT, 1917-1918.

	Journal Cost	Adv. Receipts	Net Worth
1918	\$5,956.75	\$3,641.39	\$10,739.80
1917	5,756.92	3,742.66	10,025.19
	<hr/>	<hr/>	<hr/>
	\$ 199.83	\$ 101.27	\$ 714.61

DEATHS.

Thirty-nine of the members were reported to this office during the past year as having answered the final summons—three of them having died in Service, Lieut. W. L. Miller, of Saginaw, Lieut. J. A. McQuillan of Jackson, and Major A. C. McCurdy, of Battle Creek.

January 6, 1918.

To the Council of the
Michigan State Medical Society.

Gentlemen:

The following will convey to you the amount of funds of the Michigan State Medical Society in my hands for the year ended December 31st, 1918:

Citizens Telephone Company Bonds	
No. 139 and No. 140	\$2,000.00
Certificate of Deposit No. 170 at Citi- zens' State Bank, Big Rapids, dated March 31st, 1915	1,000.00
Masonic Temple Bonds:	
18 \$100 bonds No. 199 to 216 inc.	
5, \$100 bonds No. 225 to 229 inc.	2,300.00
Liberty Bonds, First Issue; 3½%:	
No. 8450	500.00
No. 8453	500.00
No. 106,478	1,000.00
Liberty Bonds, Second Issue, 4%:	
No. 1,439,859	1,000.00
Liberty Bonds, Third Issue, 4¼%:	
No. 1,110,074	1,000.00
No. 633,293	500.00
	<hr/>
	\$9,800.00

The following will convey to you the amount of funds on hand in the Defense Fund for the year ended December 31st, 1918:

Liberty Bonds:	
1 No. 661,282	\$ 500.00
1 No. 661,283	500.00
Certificate of Deposit at the Grandville State Bank No. 9,415, dated March 22, 1918	374.40
Certificate of Deposit at the Grand- ville State Bank, No. 10,097, dated October 25th, 1918	368.88
	<hr/>
	\$1,743.28

Balance in checking account at the Peoples' State Bank at Detroit, Michigan	804.05
	<hr/>
	\$ 939.23

Respectfully submitted,
D. EMMETT WELSH, Treasurer.

Doctor F. B. Tibbals, Chairman of the Medico-Legal Committee presented the following report:

To the Council of the

Michigan State Medical Society.

Gentlemen:

The work of the Medico-Legal Committee during the past year has been lessened somewhat by the war—a fortunate fact since our income was materially lessened, with no dues from the men in service. We trimmed our overhead by voluntary reductions of the annual retainers, totaling \$350.00 and were fortunate in having but six cases reach trial, all of which were won by us. About that number are, however, awaiting trial, hence a busy year ahead of us. At the Battle Creek meeting a committee with the undersigned as Chairman was appointed to consider the advisability of changing our plan of Medical Defense to include indemnity.

Our attorneys inform me that to do this would take us into the field of Insurance requiring special incorporation and deposit with the State of an impossible fund, therefore the committee has never been called together.

We close the year with a balance of over \$800.00 in commercial account, and \$1,500.00 in invested funds.

That we have been able for eight years to defend every case, where liable, through all Michigan Courts, for one dollar per year from each member speaks emphatically for our economy of management. Many other State Societies have gotten into financial trouble, because of allowing the legal expense to get beyond bounds. Our plan of contract has prevented this, and also, we have escaped any case entailing unusual expense. While the time may come when we may need to ask the Council for more money, it is not yet in sight.

Respectfully submitted,

F. B. TIBBALS, Chairman.

These several reports were referred to the Council's Committees by the Chairman, Doctor Kay.

A recess was then taken.

The Council came to order and the motion made by Councilor Seeley that The State Society defray the necessary expenses of its Annual Meetings was supported by Doctor Hume. Carried.

A wire received from Councilor Toles from the Second District was read stating that he was unable to be present on account of being ill.

It was moved and supported by Dr. Boise that Doctor Welsh be paid an honorarium of \$100.00 for his services as Treasurer during 1918. Carried.

Motion carried to pay clerk salary of \$80.00 per month.

Finance Committee suggested that members present their bills for expenses to meetings as soon as possible so as to keep the books and accounts straight. This was made a motion which was supported and carried.

Doctor Welsh was unanimously re-elected Treasurer for the year 1919, and was also elected Secretary-Editor pro tem.

It was moved and supported that a Section on Public Health be added to the program at the Annual Meeting with Doctor R. M. Olin as Chairman and he to select his Secretary. Carried.

The motion that our next Annual Meeting be held the 21st and 22nd of May in Detroit was supported and carried.

Doctor DuBois nominated for the Executive Board Doctor Tibbals, chairman, 1922; Doctor C. B. Stockwell, 1921; Doctor Taylor, 1922; Doctor Hitchcock, 1922; and Doctor McLean, 1920. Supported and carried.

Motion carried to have the May issue of the *Journal* made a souvenir number to contain the pictures of the members who are in service.

The following communication was received from Councilor Witter from the thirteenth district:

To the Chairman of the Council of the
Michigan State Medical Society:

Having left the Thirteenth District to establish a practice in Detroit, I hereby tender my resignation (much as I regret it), as Councilor for that district.

Very truly yours,

F. C. WITTER.

Councilor DuBois moved that Councilor Witter's resignation be laid upon the table until the Annual Meeting. Supported and carried.

The following report was received from Councilor Witter:

The Thirteenth District is composed of Antrim, Charlevoix, Emmett, Cheboygan, Alpena, Alcona, and Presque Isle.

Antrim, Charlevoix and Emmett are united as the A. C. E. Society which holds meetings the second Tuesday in each month except dur-

ing the summer months. The attendance is fair but the meetings lack enthusiasm. From this Society fully 40 per cent. of the eligible physicians are either in the service or at the front. To my knowledge the family of no physician has suffered nor been in want because of his absence.

The Cheboygan County Society is in a class by itself with meetings held only irregularly. The number of physicians in the County who attend is too small to make it a successful Society. They should unite with the Alpena Society which already comprises Alcona and Presque Isle. Because of the traveling accommodations and the sparsely settled country these counties cannot successfully carry on a

Medical Society singly. They must combine and have a central meeting point to insure an attendance which will arouse interest and enthusiasm.

The Alpena Society has been for the last five or six years the best Society in the Thirteenth District. They have lots of "pep," energy and good nature, meet regularly and have a good attendance.

F. C. WITTER,

Councilor Thirteenth District.

There being no further business, the Council adjourned.

W. J. KAY, Chairman.

D. E. WELSH, Secretary pro tem.

ACUTE INTESTINAL OBSTRUCTION.

Lynch and Draper "Medical Record," August 17, 1918, present an analysis of their last twenty-four cases of "Acute Intestinal Obstruction," occurring in twenty-two patients, showing a mortality of 25 per cent. They attribute their low mortality to early recognition and immediate operation. They conclude their general discussion as follows:

1. Pain is the cardinal symptom of acute intestinal obstruction. It is typical. It is characterized by exacerbations and remissions as well as by a rhythm similar to that of the peristaltic wave which causes it. "The intensity of the pain is directly proportionate to the strength and irregularity of the peristaltic wave." (Lynch.)

2. Clinically we recognize three periods in acute obstruction. These merge imperceptibly—the first, until the forty-eighth hour; the second, until the seventy-second hour; the third, after this hour. Operation within the first period is practically free from mortality. In the second it is high. In the third period it is a forlorn hope.

3. Drugs, especially cathartics, must be avoided. Enemas are useful, but the correct interpretation of their results is all important.

4. Acute intestinal obstruction of the oral bowel unless released early results in an endocrine death. Bacteria have nothing to do with it.

5. There is only one form of acute intestinal obstruction, viz., that caused by mechanical means. The so-called adynamic or paralytic form should be looked upon in its true light, viz., that of a protective symptom, and valued accordingly.

THE DIAGNOSIS OF GALL-BLADDER DISEASE.

A keen believer in the importance of early surgical interference in gall-bladder disease so as to obviate later and severe complications, Bodenstab has analyzed with a view to early diagnosis the clinical picture of 500 cases of cholecystitis subsequently submitted to operation. The cases fall into

two groups—340 with calculi and 160 without. Of the 340 calculous patients 304 were women and 36 men, whereas in the other group there were 40 men and 210 women. The reason why so many cases of cholecystitis or cholelithiasis are taken, or rather mistaken, for gastric disease is that their symptoms are referable to the stomach—the "inaugural symptoms" of gall-stones described ten years ago by Sir Berkeley Moynihan—but they are reflex symptoms and in no way related to meals.

Five cardinal symptoms of gall-stones are described: Radiating pains from the epigastrium to the right or left costal arch, to the back or to the shoulder, found in 72 per cent. of the calculous and in 38 per cent. of non-calculous cases; flatulence in 80 per cent. of the calculous and 67 per cent. of the non-calculous patients; vomiting in 79 and 47 per cent. in the two groups; dyspnea in 72 and 39 per cent.; and prostration with a feeling of impending death recorded in 28, but probably present much more often in the calculous cases, and in 4 per cent. of the cases without gall-stones. Tenderness over the gall-bladder was present in 94 per cent. of the cases without stones, and in 86 per cent. of the calculous cases. About 23 per cent. of the gall-stone cases gave a history of jaundice, as compared with 8 per cent. in the other group. The duodenal tube of Einhorn, used in approximately a hundred cases, gave little assistance; it provided infected bile and mucus in a case with an apparently normal gall-bladder, and on the other hand sterile golden-yellow bile in patients with cholelithiasis.

In spite of the ability of Case, Pfahler, and George to detect gall-stones skiagraphically in 50 to 85 per cent. of their patients, Bodenstab did not find this a guide of great value, and concludes that reliance must still be placed on the older methods of diagnosis rather than on the more modern X-ray and laboratory methods such as gastric acidity. In 90 per cent. of the cases a correct diagnosis can be made from the history alone.—British Medical Journal, August 24, 1918.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

A. L. Seeley, Chairman Mayville
E. W. Toles Lansing
R. S. Buckland Baraga

Editor and Business Manager
FREDERICK C. WARSHUIS, M.D., F.A.C.S.
On Leave of Absence on Duty
Medical Reserve Corps, U. S. A.
D. EMMETT WELSH, M.D.,
Secretary Editor, pro tem.

All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscription are to be addressed to D. Emmett Welsh, M.D., 4th Floor Powers Theater Building, Grand Rapids, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

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February

ANNUAL MEETING.

Place—Detroit.

Time—May 21-22.

Host—Wayne County Medical Society.

Program—One of the very best.

Features—Victory meeting.

Attendance—The best.

The following have been appointed on the Committee of Arrangements:

Doctor F. B. Tibbals, Chairman, Kresge Medical Bldg. Doctor John N. Bell, David Whitney Bldg. Doctor L. J. Hirschman, Kresge Medical Bldg. Doctor E. W. Haass, Fine Arts Bldg. Doctor Harold Wilson, David Whitney Bldg.

OUR COUNTY SOCIETIES.

The reports as received from the different county societies throughout the State show that owing to the large number of physicians who have entered the service, the society meetings have been poorly attended.

The societies are purely local in character and through them it is the only means of bringing

the members into closer relationship with each other. We all become very lax and use pretext after pretext to cover our absence from the meetings. We should all develop a greater community feeling and advance our own and collective interests by our attendance at the meetings whether the papers presented are of a benefit to each individual or not.

Greater enthusiasm should be developed in the notification of each member of our meetings and if we would copy after the Kalamazoo County Medical Society as noted by their bulletin, I believe a greater interest would develop. Their bulletin gives a synopsis of each paper and the discussions thereon of each preceding meeting. After reading over the bulletin, the doctor who has not attended the meeting, feels that he has missed something good, and feels like kicking himself for not attending. If each County Society would follow out a program of this character, there is no doubt but what our meetings would increase at least numerically 50 per cent.

We should all try to make this year a banner year. The war is over and our boys will return from the front filled with new ideas which will be of benefit to all. Before their return get into the habit of attending these meetings.

The County Societies have been requested to send in the names of all their members who are or were in the Service. It is urged that their names be sent in to this office at once. The importance of complying with this request will be explained in our next issue of the Journal.

"OVER HERE."

As far as machine gun fire, barages, shrapnel, hand grenades, bayonet and rifle as well as the employment of other destructive agents of warfare are concerned; as far as casualties, killed in action; minor and major wounds of extensive and mutilating degree are concerned; as far as trenches, dugouts, bomb-proof caves and troops to and fro to supporting positions are concerned—as for all these and many other important features of active warfare are concerned the war is over—"Over Here." There exists now the aftermath and the tremendous amount of work that remains to be done before the last company of troops can put out their camp or barracks fire, call the dog and step aboard the vessel that will carry them back home.

The rapid and kaleidoscopic changes that were witnessed following the signing of the armistice, when each succeeding hour altered the status of every unit of our Expeditionary Forces and created an abrupt deviation from their accustomed line of activity were so far beyond one's ability of conception that even now I can not trust myself to attempt a word description. To do so would require reams of paper and even then one would be unable to convey an adequate picture of what transpired. It will be years before able historians will exhaust the fund of material for their writings upon the subject.

And so to-night I find myself in Southern France on the shores of the Mediterranean Sea, midst tropical trees and balmy air (Dec. 12, 1918) still at loss as to what to write in compliance with the my promise to communicate my experiences and observations to our readers.

The convoy across, the landing in Liverpool, the trip across England to Southampton, the British Camp, the trip across the channel guarded by destroyers and in the darkest hours of the night and at last landing on French soil followed closely the descriptions of the million who preceded and are familiar, except for the personal excitement of participation, to most of our organization's members.

But just one item of that journey I desire to touch in passing comment. Don't imagine that a "rest camp" is what the term implies. The only thing that "rests" is your pack. As for the rest—well one would hardly call it a period of rest to sleep in a shed or an old race track barn with a straw tick that was laid across a board bunk—double deckers—and in which the straw had not been changed for weeks or months, and where the damp, penetrating air still caused you to shiver the night through, even though you were handed five burlap blankets for bedding. Where in the one congregating shack there was a small, yes very small stove by which you would hug to get an occasional ray of warmth during the day. Where for breakfast you got chicory coffee with saccharine, salt pork and English war bread and the remaining meals of each day were on the same par. Where mud and old railway ties for crosswalks furnished your promenade grounds. Where you heard the numerous comments and criticisms of the war expressed by every type of soldier. If one calls that condition and those surroundings as ideal resting places or even for short sojourning between connecting trains, I sincerely hope I shall never again be compelled to rest.

The only joy-killing feature and the only dreaded spot of our boys returning home is the "rest-camps" enroute to the port of embarkation. As the "Stars and Stripes" in a recent description of demobilization plans put it—"Those Rest Camps Again." For precautionary measures we recommend that you do not ask a returned soldier as to how he liked the "rest camps."

To resume—I am in tropical France, with temperatures averaging daily 75, where beautiful flowers are in bloom and trees are bearing fruit. The French Rivera, the summer resort of all Europe and where Queen Victoria and other nobility escaped the rigors of northern winters. Here Uncle Sam has leased several large hotels, giving us a bed capacity of 4,000 and where to-night I have some 1,100 wounded soldiers with wounds of every type and description in the surgical service of my Unit which is stationed here. As Chief of that surgical service I have had but little opportunity for recreation, motor trips or social activities. The daily program consists mainly of twelve to sixteen hours of work and the remainder of the time is consumed in bed. The town itself is but a small one of some 800 inhabitants. Its climate and surrounding beautiful country is its principle asset, thus establishing its fame as a winter resort.

It is to these hotels, turned into hospitals that inland and northern hospital groups are being evacuated pending the convalescence of these wounded soldiers and their ability to make the sea voyage. It is they who constantly put the question: "Major, when are you going to send me home?" And would that it were in my power to convey a description of these wounded men and realistically summarize all they have gone through. The price they paid and will continue to pay the remainder of their lives inspires one's profoundest admiration and engenders an indescribable feeling of pride because they are *Our Boys* and *Our Sammies*. No service that we can render is too great if it mitigates the physical damage that has been inflicted upon them by almost every instrument of warfare.

In regard to mental states, cheerfulness, in spite of their injuries, and their general hopefulness they are certainly wonders. No wound, no post operative pain, no dressing ever elicits a word of complaint. I've yet to hear or see a single one give way or beg for mercy. Their stoicism is almost unbelievable. They exemplify the fortune of the foremost Spartan heroes.

One can not help but admire and adore them.

As to their wounds they vary from a bullet or shrapnel skin abrasion to the severest degree of mutilation. Wounds of one inch to sixteen and twenty inches long, infections, peri and osteomyelitis, excised buttocks, perforations of chest, abdomen, yes and even skulls; fractures, empyemas and similar lacerations and mutilations. These wounds are of every degree of infection when they arrive and then when surgical intervention and treatment arrests the infective process large areas of undermatized surfaces remain, requiring secondary closure by plastic surgery. The surgery, to summarize, consists of principles of drainage, curettement of bone and sequestrotomy, removal of foreign bodies consisting of bullets, shrapnel, bomb fragments, pieces of shell and even stones, tendonplasty, and plastic repair. In addition we have also the surgery of Base Hospitals in Cantonments—namely hernias, appendicitis, hemorrhoids and fractures. In general we are called upon to observe and employ the principles of general surgery which becomes specialized insofar as the treatment is concerned with regard to gunshot wounds which are characterized by the large areas involved. Then too there is the point of a large number of cases that continually pass through one's service. On Monday of this week we received a train load of patients numbering 425 and to-night I am again informed that to-morrow, Friday, we will have another train load of 350. In like manner are they discharged. With such numbers coming and going one has but little opportunity for recreation and the old bed is pretty welcome as soon as one can hit it.

But enough of personal prattle—the War is Over, Over Here, but upon the medical officers rests the burden of hastening the recovery of the wounded so that they will be able to travel and board a transport for home. Toward that end is every effort being bent but the task is far from a small one. Rumor has it that it will take until June while some few optimists state that March and April will see many hospital units evacuated and homeward bound. Upon that point I must at this time decline making a positive statement. Very few now know just what is the number of wounded to be evacuated and without that information all calculations would be valucless.

We look forward to returning in the spring or summer and in the meantime we are endeavoring to do our part to hasten the day of embarkation. At present writing I am with-

out information or news as to how the signing of the armistice was received in Michigan and what progress is being made toward resumption of business and professional activities. Our last letters and papers are dated November 2—some six weeks ago. We shall be interested to see the reports. Likewise will we be interested in learning of the organizational and professional business return to pre-war conditions. For that, however, we must curb our eagerness and withhold our comments.

It is true that when we do return, we know the war will have been over for several months and many will think that our delayed return is occasioned by pleasure jaunts about Europe and some too may even forget that we had a war and Expeditionary Forces Overseas. Be that as it may. The war is over but "Over Here" there remains much that must yet be done and to those to whom is allotted that duty falls the responsibility of doing the job up well and no fear need exist that it will be a mediocre finishing process.

So I have rambled along setting forth a few observations that may be of interest to some. At some near future I hope to be able to go into more specific details and impart a viewpoint of some of the medical activities of Oversea Units. Until then—with cordial greetings and good wishes to our members, I am,

Sincerely,

FRED'K C. WARNSHUIS,

Major, M. C.

This *Journal* will be favored in the future with papers and reports of cases from the different hospitals in Detroit and will be known as The Detroit Clinics.

Everyone should become thoroughly interested in reading the same. The character of the men furnishing these reports and the immense amount of material that is accessible for them to make up these valuable reports is almost immeasurable. There is no city to-day in the country in which there is greater abundance of material to draw from or more capable men to care for same, and these clinics and case reports will make you think you have been an eye witness to everything that has been done and the *Journal* congratulates itself on being able to obtain these papers and share in the knowledge thus gained.

Editorial Comments

The January issue of the Illinois State Medical Journal contains several articles by the leading physicians of Chicago and other parts of the State who are opposed to Compulsory Health Insurance, and they look upon it as a propagandic condition not for the benefit of labor but for a few self styled philanthropists under whose guise it is being used for ulterior motives.

There is no doubt but what this subject will occupy the attention of the present different State Legislatures and each should enlighten himself upon the true merits of the subject and should such a bill be presented at our Legislature which we have reason to believe will not be done at this session, we should be prepared to combat its detrimental influence to labor and the profession.

Please pay your 1919 dues which are now payable to your County Secretary promptly and avoid liability of being suspended.

We are desirous of obtaining letters from members of the State Society who are in Service, especially those overseas, which might be interesting to the profession in general. Please send them in for publication in the Journal!

We would ask that our members please remember the necessity of patronizing our advertisers whenever possible—give them your preference.

Many of the smaller towns have been in need of physicians on account of so many being in the Service.

This office will be only too glad to keep on record such places that are in need of the same if they will notify us. In this way we can become a Bureau of Information as we have many requests for locations from new graduates and physicians who wish to make changes.

Uncle Sam, when he offers the medical practitioners of Michigan their share in the Victory Liberty Loan next spring, will be unwilling to accept any plea that the profession, as a whole, is unable to subscribe as liberally to the Fifth

issue as to its predecessors. Uncle Sam knows exactly what the increase in the cost of living has been and he knows that never before in history has the average wealth of the medical profession been so great.

Two influences have combined to bring the medical men inflated reserves of cash. The first was the war, which withdrew thousands of practitioners from civil practice and left double duty for those who remained. The second was the terrible epidemic of influenza, which, according to census department estimates, carried off 375,000 individuals in sixty days.

There probably is not a man among the readers of the Michigan State Medical Journal who would not have given five years of his life to prevent either of these catastrophies. Many indeed did give life itself. But those who have lived through the ordeal and survived with unshattered constitutions have had forced upon them a larger average annual income than has resulted from practice in many a year. No true physician would care to go through the experience again, but, the laborer being worthy of his hire, he now has, in most instances, a larger surplus for investment than, perhaps, at any other time of his life.

The plea of the high cost of living—should any member of the medical profession so far disappoint us as to make that plea—can hardly be put forward convincingly. The National Industrial Conference board, an official body, on January 9 published a report in which it finds that the cost of living in American industrial centers has advanced only 65.9 per cent. Between July, 1914, and December, 1918, the cost of food went up 83 per cent., of shelter, 20 per cent., of clothing 93 per cent., of fuel and light, 55 per cent., and of sundries, 55 per cent. As food takes up 43 per cent. of the workman's budget, shelter 18 per cent., clothing 13 per cent., fuel and light, 6 per cent. and sundries 20 per cent., the board finds that the cost of living has advanced as a whole 65.9 per cent. The figures relate to industrial workers, and of course are not quite in line with the percentages that obtain among professional men, but they are sufficiently near to serve all practical purposes.

The Government needs the money of the medical men as badly as it did during the actual fighting. The Fourth Loan only paid the bills up to December 1. Since then the Government has been going into debt at the average rate of \$300,000 000 a week in order to meet the military expenses. The liquidation of the war machine has brought about a peak-load of expenditure that has resulted in temporarily augmented outlays,

Later on the total will drop away sharply and it is expected that there will not be another large Government loan after the Fifth.

The bonds will offer the safest and best investment that is obtainable by the average professional man. Physicians are notoriously poor investors. It is a lucky man who has not, in his safety deposit box, one or more certificates of stocks or bonds that are worthless and represent the loss of hard earned dollars. The Government bonds are absolutely safe and the return of the principal is certain.

The physician who refuses to buy Victory Liberty Bonds—if there be any such in Michigan—will be both a poor citizen and poor business man.

Correspondence

Detroit, Michigan.

Hon. Cornelius Hoffius,
Prosecuting Attorney, Kent County,
Grand Rapids, Michigan.

Dear Sir:

I have a letter from Dr. Nyland, of Grand Rapids, a member of my board, in which he states that you have raised the question relative to the legal interpretation of the words "practice medicine," as found in Section 4, of the Osteopathic Act, viz., Act. No. 305, of the Public Acts of 1913, and that you have suggested that I write you the board's version of its legal application.

This act of 1913, amended the Osteopathic Act of 1903, primarily, by increasing the course in osteopathy from three to four years, and, in addition, the reading of Section 4, of the 1903 Act, was altered or changed (not amended) to read as follows:

"The certificate provided in section two of this act shall entitle the holder thereof to practice osteopathy in the State of Michigan in all of its branches as taught and practiced by the recognized colleges or schools of osteopathy, but it shall not authorize him to practice medicine within the meaning of act number two hundred thirty-seven of the public acts of eighteen hundred ninety-nine, or acts amendatory thereto, PROVIDED, That nothing in this act shall be construed as to prohibit any legalized osteopathic physician in this State from practicing medicine and surgery after having passed a satisfactory examination before the State Board of Medical Examiners in the State of Michigan."

A comparison of the reading of the above section 4, with the similar section in the Osteopathic Act of 1903, which it attempts to amend, will plainly show that the language used simply covers a method of expression, or the use of different words to express the same legal purpose. Of course, the intent of the authors of this section had in mind the "putting of something across,"—but did they succeed in doing so?

An examination of the two acts, viz., the Medical Act. No. 368, P. A. of 1913, and the Osteopathic act No. 305, of 1913, (the former act substituting the latter act), will show no substantial amendment to the Osteopathic Act No. 162, of the P. A. of 1903, further than these amendments which are contained in Sections 1 and 2 of the act in question. A futile attempt was made to amend Section 4.

The title (not amended) of the Osteopathic Act No. 305, of the Public Acts of 1913, reads:

"To amend sections one, two and four of act number one hundred sixty-two of the Public Acts of nineteen hundred three, entitled 'An act to regulate the practice of osteopathy in the State of Michigan, to provide for the examination, licensing and registration of osteopathic practitioners, to appoint a State Board of Osteopathic Registration and Examination,' etc.

The title of this amended act does not disclose its object or purpose in substituting the term physician for that of practitioner, nor does it provide for the addition to osteopathy of important departments or subdivisions of medicine, i. e., surgery, obstetrics and gynecology. It is, therefore, in contravention of Section 21, Article 5, of the State Constitution.

Surgery is, and always has been, a department of the science of medicine. As a science, it is the same today as it was one hundred years ago, except for normal advances and improvements. The mere contention that osteopathic authority can add surgery to osteopathic practice, is an admission that it is a separate and distinct division, or department, of the practice of medicine, as also is obstetrics. If these divisions of medicine were a part of the osteopathic system of practice, why was it necessary to attempt to make them so, by the attempted amended Sections 2 and 4, of their 1913 Act? Consequently, a separate and distinct subject is added to Sections 2 and 4 of the amended act, without reference to it in the title. Professors of surgery in osteopathic colleges, have testified, in a court of record that there is no such subject as osteopathic surgery, that the whole of surgery taught in osteopathic colleges is taken from authorized text books in common use in all medical colleges; also, that the course in surgery represented only some 20 per cent. of the surgical course in medical colleges. As a matter of common sense, there cannot be two kinds of surgery, any more than there can be two kinds of physiology, pathology or chemistry.

Again, the substitution of the word physician for the word practitioner creates another subject, and no object or purpose is disclosed in the title. These words, correctly used, are not legally similar or synonymous. The title of physician, as read and properly applied, represents one who covers the whole field of medical practice, including internal medicine, surgery and obstetrics. The title of practitioner means "one engaged in a profession," and is always preceded by a qualifying word, such as dental practitioner, medical practitioner, legal practitioner, veterinary practitioner, etc.

In the "ex verceribus actus" of a statute, the

practical inquiry is what a particular provision, clause or word means. It should be construed with reference to the leading idea or purpose of the whole. The whole and every part must be taken into account, while the general intent should not be lost sight of in determining the scope and meaning of any part. (Sutherland, *Statutory Construction*, 1st ed., par. 245, 247, 250, 254, et sequi). A careful analysis of both the medical and osteopathic statutes will convince a competent investigator that the legislative mind could not have had in view the establishment of two separate and distinct standards of such an important branch of medicine as surgery, the one having only 20 per cent. of the qualifications of the other. Legislation of this kind would not only be discriminative, but unconstitutional. It would have none of the elements of protection to the people.

Section 4, of the amended Osteopathic Act of 1913, reads as follows, and which for convenience is again quoted.

"The certificate provided for in section two of 'this act shall entitle the holder thereof to practice osteopathy in the State of Michigan (in all of its branches as taught and practiced by the recognized colleges or schools of osteopathy), but it shall not authorize him to practice medicine within the meaning of act number two hundred thirty-seven of the public acts of eighteen hundred ninety-nine, or acts amendatory thereto; Provided, That nothing in this act shall be construed as to prohibit any legalized osteopathic (physician) in this State from practicing medicine and surgery after having passed a satisfactory examination before the State Board of Medical Examiners in the State of Michigan * * * * *"

It will be noted that an attempted amendment to the above section was made, by adding the words bracketed, i. e., "in all of its branches, as taught and practiced by the recognized colleges or schools of osteopathy," and "physician," to the section, and eliminating the words "or surgery" from the former reading, "it shall not authorize him to practice medicine or surgery."

For convenience in analysis, this Section 4 can be discussed from three angles:

First.—The legal force of the words "practice osteopathy in the State of Michigan in all of its branches as taught and practiced by the recognized colleges or schools of osteopathy."

Second.—The legal significance and interpretation of the term "practice medicine," and the omission of "or surgery" from the original reading in the 1903 act.

Third.—The blending, or the harmonizing, of the titles and provisions of both the 1913 medical and osteopathic acts.

First.—Under the first division of the section, the provision is attempted, permitting osteopaths to invade, without standard qualifications, branches of medicine outside of the field of osteopathy, as it has heretofore existed, and the regulation of which is already, and has been for a great many years, under the administration and control of state medical boards, created by the legislatures of the several states. And, incidentally, attention is called to the

avowed purpose of the authors of Section 4 under discussion—to create an indefinite and expensive definition of osteopathy, capable of unlimited expansion as circumstances might arise. Having the above in view, osteopaths, in legislative efforts, have always refused to incorporate into any proposed bill or act, anything having the slightest resemblance to a definition of osteopathy. There can only be one reason for this most important factor in an act being so persistently and strenuously opposed, and this Section 4 clearly demonstrates it.

The delegation of authority to corporations and individuals, citizens of other states, and under no direct or indirect control, either by the state directly, or by a state board of licensure, to create standards of qualification for license and practice in Michigan, such standards involving departments or subdivisions of medicine already under state and state board control, is, without question, an unconstitutional delegation of authority, and, in addition, a subject has been injected into the amended act, the object and purpose of which has not been disclosed in the title.

The language used in section 4, i. e., "practice osteopathy * * * * in all of its branches as taught and practiced by the recognized colleges," etc., correctly construed, can only refer to osteopathy per se, not to organized and fundamental divisions of medicine, existing, as such, centuries before osteopathy existed. The word "practice" cannot be a factor in the sentence, for the reason that no state in the union permits an osteopath to practice general surgery, and practice, to be material, must of necessity be legal practice (Hooper v. Batdorff, 1905, 141 Mich. 353; 104 N. W. 6671). Legally considered, therefore, "taught and practiced" is an impossibility in law.

It may be contended, that listing surgery in Section 2 of the 1913 Osteopathic Act, shows legislative intent to authorize osteopaths, under these amendments, to add general surgery to osteopathic practice. The creation of another subject, which is not disclosed in the title of the act, is again noticed. The mere citation of subjects for study and examination, in an act, and without specifying the degree of qualification required, does not warrant the assumption that authority is given for professional practice in such subjects. Surgery is only remotely connected with osteopathy, and can only be properly regarded as fundamental to the study of this system, or rather, method of treatment. All state acts regulating the practice of professions involving specialties in medicine, and creating standards, provide courses in surgery and other fundamental subjects. In a large degree, the intent is to provide a method for diagnosis, with a view to the prevention of attempted treatments in unsuitable cases, and as a measure of safety to the public. The Druggist Act provides not only for the study of drugs, but also for expert knowledge of the therapeutic action of drugs on human beings, practically a similar course as given to medical students. The Dental Act provides for surgery of the jaws and teeth, a certain amount of drug therapy, and anesthesia. The Chiropody Act provides for courses and examinations in surgery. The Nurses Act provides for courses in surgery, medicine, obstetrics,

gynecology, and materia medica and therapeutics. It can hardly be contended that any one of the above quoted acts provides for license to practice medicine, including surgery.

Again, if Section 4, under discussion, gives an irresponsible body without the State, and under no State control, authority to add such an important department of medicine to a method of treatment, by the simple process of listing such department with the studies claimed to be taught in colleges not recognized by any one of our reputable universities, either in this, or in any other country, with authority to practice such department of medicine in a state requiring at least 500 per cent. greater qualifications, then it is reasonable to assume that this body can, by the same process, authorize future osteopathic graduates to practice dentistry, pharmacy, chiroprody, law, and several other professional callings, without the necessity of their being authorized by the several state boards appointed by the state for that purpose.

Second.—The legal interpretation of the term "Practice of Medicine," in Section 4 of the osteopathic amendments.

It will be plainly evident to the logically trained mind, that an attempt was made by the authors of the above section to camouflage its intended purpose with the object of creating the legislative intent of removing from the section the prohibited practice of surgery and obstetrics by osteopaths, through the method of changing (by omission) the wording of the section from "practice medicine and surgery" to "practice medicine." In order, however, to have accomplished this purpose, it was absolutely necessary, not only to change the technical word "medicine" from its universally accepted and used meaning by some rational language in the proposed statute, but also providing for the proposed change in the title of the act itself by amending it. Again, it was also necessary, in order to accomplish this object, to omit the words, "and surgery" from the succeeding words of the same section, which very plainly demonstrates the legislative intent to prohibit osteopaths from practicing surgery under the amended act.

In connection with the above, while not necessary in view of the fact that "practice of medicine" is very broadly defined in Section 9 of the 1913 Medical Act, it seems proper to discuss the legal construction of the word "medicine" as it is used in medical practice acts, and allied acts.

"Medicine" is a double entendre word. It may seem, and as commonly used does mean either of two things. In one sense it means a substance which has a curative property, and is synonymous with the word drug. But its common and well-established meaning is "the science or system of curing, healing, alleviating or preventing disease, physical disorders and injuries, without reference to the means employed to accomplish that end." "Medicine" in its generic sense as a science should be distinguished from the term "drug." The word "medicine" (Latin, *medicina*) is derived from *mederi*—to heal. It has been defined in all of the various medical and standard dictionaries, as well as by statutes and the courts. An analysis of these several definitions admit of but a single

conclusion—the term is used only in its broadest sense in medical practice acts. (See Dunglison's, Gould's and Dorland's Medical Dictionaries, Webster's New International, Century, Standard and Encyclopedia Britannica Dictionaries).

"Medicine" as defined by Legislatures and by the Courts.

- Bragg vs. State, 134 Ala. 165.
- Collins vs. Texas, 32 Sup. Ct. Rep. 286.
- Witty vs. State, 173 Ind. 404.
- State vs. Miller (Iowa), 124 N. W. 167.
- People vs. Phippen, 70 Mich. 6.
- Little vs. State, 60 Neb. 749.
- People vs. Alcutt, 102 N. Y. Supp. 678.
- State vs. Marble, 72 Ohio St. 21.
- O'Neil vs. State, 115 Tenn. 427.
- Ex parte Collins, 57 Tex. Crim. Rep. 2.
- 27 Cyc. 466, and cases cited.
- People vs. Mulford, 125 N. Y. 680.
- Ch. 344 N. Y. Code, Sec. 1, Subd. 7.
- Ch. 17, Iowa Code, Sec. 2579.
- State vs. Heath, 125 Iowa 585.
- Kansas City vs. Baird, 92 Mo. App. 208.

The "practice of medicine" consists of three essential things:

First.—Diagnosing or determining the nature, character and symptoms of diseases or ailments.

Second.—Determining the proper remedy for the same.

Third.—Giving or prescribing the appropriate remedy.

"The 'practice of medicine' as that term is more generally understood, means the exercise or performance of any act by or through the use of anything or matter, or by things given or applied, whether with or without the use of drugs or medicines, by a person holding himself or herself out as able to cure diseases or the causes of diseases, with a view to relieve, heal, cure or having for its object the prevention, healing, curing or alleviation of disease." (Underwood vs. Scott, 43 Kan. 714. Green vs. Hodges (Kan.), 138 Pac. 605).

"The term 'practice of medicine' may be taken as embracing the art of preventing, curing and alleviating disease and remedying as far as possible the results of violence and accident. Therapy is the treatment of disease, and surgery is operative therapy. Thus, the practice of medicine necessarily includes surgery and any method of treatment." (Stewart vs. Raab, 55 Minn. 20. "Holding one's self out as a physician together with diagnosing, prescribing and charging therefor constitute the 'practice of medicine!'" State vs. Van Doran, 109 N. C. 864.

The above supreme court decisions are simply concrete examples of the very large number of similar opinions supreme courts of nearly all of the several states have given from time to time. An Ohio case, viz., State vs. Liffing (61 Ohio St. 39) was based on the applied doctrine of "*noscitur a sociis*," to the language, "medicine, drug or other remedy" as it appeared in the Ohio medical act. This act was subsequently amended as follows: "Who shall prescribe or who shall recommend for a fee for like use any drug or medicine, application,

operation or treatment of whatsoever nature for the cure or relief of any wound, fracture, bodily injury, infirmity or disease." The Liffing case was in effect overruled by the same court in the case of *State vs. Gravett*, 65 Ohio, St. 289.

It would seem, therefore, that "medicine" as interpreted by the courts, and as generally understood the world over, is a technical word denoting a science and embracing not only therapeutic pharmacology, but the art of understanding the nature of diseases or ailments, the causes that produce them, and the art of knowing how to prevent them. These definitions are thoroughly supported and established by the history of medicine and by common usage in its practice as a science. Consequently, we have schools of medicine in connection with our state and national universities, teaching all of the branches of medicine, including surgery, obstetrics, and physical-therapy. We also have national departments of medicine, including in its membership surgeons of the Army, Navy, and Marine Hospital Service. Also we have the Medical Reserve Corps, of the U. S. Army, composed of surgeons, graduates of reputable and recognized schools of medicine. At the beginning of the war, osteopaths attempted to obtain recognition in this branch of the service under the camouflage of extreme patriotism and service, but after an investigation of their claims and status, the War Department ruled that osteopaths could not qualify as surgeons of the Army. Gunshot and bayonet wounds can not be remedied by rubbing, twisting, pulling or thrusting, neither can a mutilated face be restored by similar process. We have national and health departments charged with the duty of practicing preventive medicine and which does not involve the giving or prescribing of drugs. If the interpretation attempted in the osteopathic amendments had any force, it is reasonable to suppose that a preventive medicine official was charged with the enforcement of the Harrison Drug Act. The term "medicine and surgery" is simply a method of expression, and is used to emphasize an important branch of medicine. It comes under the doctrine of "*noscitur a sociis*" as applied in *State vs. Liffing*, (61 Ohio St. 39).

A legislature can define terms used in an act in order that a court may more readily give effect to the enactment. (*Territory vs. Newman*, N. Mex. 72 Pac. 706).

Act No. 368, of the Public Acts of 1913, Section 9, (Michigan) reads:

"Any person who shall append the letters 'M.D.' or 'M.B.' or other letters in a medical sense, or shall prefix the title 'doctor' or its abbreviation, or any sign or appellation in a medical sense, to his or her name, it shall be prima facie evidence of practicing medicine within the meaning of this act. In this act, unless otherwise provided, the term 'practice of medicine' shall mean the actual diagnosing, curing or relieving in any degree, or professing or attempting to diagnose, treat, cure or relieve any human disease, ailment, defect or complaint, whether of physical or mental origin, by attendance or by advice, or by prescribing or furnishing any drug, medicine, appliance, manipulation or method or by any therapeutic agent whatsoever.

The above definition, a most important of the part of the statute, should without further argument furnish the exact interpretation of the scope and meaning of the words "practice medicine" in Section 4, of the osteopathic amendments of 1913. The definition is placed in the statute for this purpose only. This definition has been commented upon by the Michigan Supreme Court as being extremely broad, but constitutional if applied in harmony with the title of the act, which reads: "An Act to provide for the Examination, Regulation, Licensing and Registration of Physicians and Surgeons," etc. This definition is without question broad enough to answer the purpose for which it was intended, and it certainly harmonizes with the title of the act from the constitutional standpoint. In a recent decision the Supreme Court (Michigan) Reaffirmed a former decision (*People vs. Phippen*, 70 Mich. 6), which found the defendant guilty of practicing medicine, he being a "magnetic healer" and not using drugs or instruments. (*Looke vs. Circuit Judge of Ionia County, Mandamus*).

While not directly material to the case under discussion, it is interesting to note several supreme court decisions in which surgery is held to be not included in the method of treatment known as osteopathy. The psychology of the evolution of an osteopath from a method of treatment which not so very long ago designated surgery a crime against humanity, to the status of a regular physician and surgeon is, to say the least, very illuminating.

Bragg vs. State, 134 Ala., 165.

People vs. Gordon, 194 Ill.

Smith vs. Lane, 24 Hun. 332 N. Y.

Nelson vs. State Board, 198 Ky. 769.

State vs. McNight, 131 N. C. 717.

Hayden vs. State, 81 Miss. 291.

State vs. Lawson, (Del) 65 Atl. 593.

Concluding the discussion relative to the legal force of Sections 2 and 4 of the amendments of the osteopathic act, I have an official opinion from the Attorney General, at Lansing, in which it is held that osteopaths in this state are not given authority in above sections to practice surgery in Michigan. (See Attorney General's Annual Report, 1914-1915). This official opinion should afford sufficient warrant for the prosecution of osteopaths who practice and obstetrics without medical registration.

Third.—The blending or harmonizing of the titles and provisions of both the 1913 medical and osteopathic acts.

The following general comments are intended as a resume of the discussion covering the legal disabilities involved in Sections 2 and 4 of the osteopathic amendments of 1913 and their conflict with the provisions of the 1913 medical act.

The words of a statute are to be understood in the sense in which they best harmonize with the subject of the enactment, and with the object which the legislature has in view. That is, in the construction of a statute words are to be understood in their ordinary meaning as applied to the subject matter (title) with regard to which that are used, and as a result where technical words used in reference to a technical subject they are of necessity interpreted in the sense in which they are understood in the science or art in which they have ac-

quired it. (Endlich, Interpretation of Statutes. Pp. 94-96, Para. 73-75.) Again, as already referred to, in the "*ex verceribus actus*" of a statute, the practical injury is what a particular provision, clause or word means. It should be construed with reference to the leading idea or purpose of the whole, (Sutherland, Statutes and statutory Construction. Sect ed) Para. 245-254 et sequi). (1 Kent's commentaries).

In comparing the titles of the two acts in question, the one provides for the registration, licensing, examination and regulation of Physicians and Surgeons, the other provides for the registration, licensing, examination and regulation of osteopathic practitioners. The subject matter of the one act is in harmony with its title; the subject matter of the other act is not indicated in the title and is in direct conflict with the provisions of the medical act—the prevailing act. The meaning and intent of the term "practice medicine" is clearly and specifically defined in Section 9 of the medical act and in Section 4 of the osteopathic act. In the latter act the term osteopathy is not defined even by inference. The courts have defined osteopathy as a method of treatment by manipulation and rubbing, with the claim of its being more scientific than a nurse or a masseur, the latter of whom are exempted in the osteopathic act, (Collins vs. Texas, 39 Sup. Ct. Rep. U. S. 286). If it is constitutional for the legislature to deligate authority under its police power to individuals and corporations without the state, and under no state control, to establish and maintain standards of qualifications for osteopathic practice in Michigan such standards must of necessity harmonize with the title and provisions of both the medical and osteopathic acts.

It is absurd to contend that the Michigan Legislature had in mind the establishing of two distinct and different standards of surgery, together with their administration, the one representing some 20 per cent. of efficiency as compared with the other. As medical legislation has solely to do with the protection of the public, the attempted construction of the osteopathic amendments does not meet the fundamental reasons for the creation and maintenance of state recognition of professional callings.

Yours very truly,

B. D. HARRISON, Secretary.

Mich. State Board of Registration in Medicine.

Influenza Vaccine.—So far but two definite reports of adequately controlled experiments on the use of influenza vaccine appear to have been published. That of Barnes concerned the use of the Leary vaccine, composed of strains of the influenza bacillus, and indicated that the vaccine was not of prophylactic value. The second report, by G. W. McCoy and co-workers, concerned a carefully controlled experiment on the use of a mixed vaccine similar to that brought out by Rosenow, and indicated that this vaccine was not efficacious as a prophylactic against the present epidemic (*Jour. A.M.A.*, Dec. 21, 1918, p. 2094.)

Deaths

Doctor George W. Wagner died at his home in Detroit, December 15, of pneumonia following an attack of influenza.

Doctor Wagner was associate professor of gastrology at the Detroit College of Medicine, and a member of the Harper Hospital staff. He had practiced in Detroit for about thirty years, coming there from Adrian, Michigan, where he was born in 1864. He was a graduate of the Jefferson Medical College of Philadelphia.

Doctor Wagner is survived by the widow, mother, two brothers and three sisters.

Doctor Clifford Kirkpatrick, of Adrian, died December 31st at the Bixby Hospital from a violent attack of peritonitis with which he had been ill but a few hours.

Doctor Kirkpatrick was born in Bangor, Maine, May 13, 1855 and came to Adrian in 1878. He was a graduate of the University of Michigan. The widow and one sister survive him.

In the death of **Doctor Allison B. Stealy**, of Charlotte, Eaton County loses one of its representative physicians and surgeons. Doctor Stealy died Thursday afternoon, January 9th at his home in Charlotte, after a rather long illness. He was 62 years of age.

Doctor Stealy attended the University of Michigan and was a graduate of the Bush Medical College of Chicago of the class of 1886.

Surviving are the widow, four children, and one brother.

The deaths of **Doctor Paul Leuschner**, of Mt. Clemens, and **Doctor S. B. Rolison**, of Hesperia, not members of the Society have been reported.

Benzyl Benzoate.—The Benzyl alcohol ester of benzoic acid. It lowers the tone of unstripped muscle and has been suggested as a remedy against renal, biliary, uterine and intestinal colic and other spasms of smooth muscle, including angiospasm. Its clinical use is in the experimental stage. The dose is from 0.3 to 0.5 Cc. (5 to 7 minims). Benzyl benzoate is a liquid at room temperature, insoluble in water, but miscible with alcohol, chloroform and ether.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

KALAMAZOO MAN HEADS NEW STATE HEALTH BODY.

The Michigan division of the American Public Health Association was organized at Lansing, January 7, by representatives of health departments of all cities in the State having fully paid officers.

The intention is to establish a unit of the national association in Michigan.

Co-operation, including the working for legislation which would be of benefit to health officers, is the aim of the new organization.

Dr. A. H. Rockwell, of Kalamazoo, was elected President, A. C. Parnell, of Ann Arbor, Vice President, and William De Kleine, of Flint, Secretary and Treasurer.

T. B. CLINICS FOR WESTERN MICHIGAN.

The Michigan Anti-tuberculosis Association announced as schedule for free tuberculosis clinics in various counties in the State during the next two months as follows: Gratiot county, at Alma, January 30 and 31; Montcalm county, at Greenville, February 13 and 14; Ionia county, at Ionia, February 27 and 28; Barry county, at Hastings, March 13 and 14; Clinton county, at St. Johns, March 27 and 28; Branch county, at Coldwater, April 10 and 11. Dr. E. R. Vanderslice, medical director, and Miss Charlotte Ludington, field nurse, are in charge of the clinics and they will be assisted by local physicians, nurses and health workers.

The next annual meeting of the Federation of State Boards will be held at the Hotel La Salle, Chicago, on Monday and Tuesday, March 3 and 4, 1919. This will be the Annual Congress on Medical Education and Licensure participated in by the Federation of State Medical Boards, the Council on Medical Education of the American Medical Association, and the Association of American Medical Colleges. This meeting will be one of unusual importance since it will involve a discussion of numerous problems relating to medical education and licensure which have arisen as a result of the war.

Col. V. C. Vaughan, head of the epidemiological section of the staff of the surgeon general of the United States and also head of the medical school of the University of Michigan, warned the people of Michigan that with the increase in respiratory diseases, there is apt to be an increase in tuberculosis.

Dr. Arthur M. Hume, of Owosso, President of the Michigan State Medical Society is in New York where he is connected with the Michigan Soldiers' Bureau. He will pay particular attention to the sick and wounded in the hospitals and as they arrive from overseas.

Detroit—"Doctor" fined \$200 in Police Court Case Judge Jefferies Tuesday fined Costica Dumitrescio, Rumanian "doctor," who formerly conducted a "hospital" at 376 Adelaide Street, \$200 with the alternative of three months' imprisonment. Dumitrescio paid the fine.

The marriage of Captain Clayton Gregg Woodhull of the Base Hospital at the Air Service Depot at Morrison, Va., formerly of Decker, Mich., to Miss Winifred Susan Flaherty, C. N. U. S. Army, N. C. at Newport News, Va., December 21, 1918, is announced.

Dr. E. G. Bellinger, recently mustered out from the medical corps at Camp Greenleaf, Ga., where he was stationed has returned to Lansing where he has opened his former office for general practice.

Major Howard A. Grube, formerly chief surgeon at the Michigan Soldiers' Home has been promoted to rank of Lieut. Col., and is now with the Army of Occupation in Germany.

The county secretaries are urged to send in their news items each month for publication, or if each doctor would report the "doings" in his vicinity direct to this office it would help us a great deal.

Dr. Frank W. Hannum, who was commissioned a first lieutenant in the medical corps of the U. S. army has been discharged and will resume his practice at Muskegon.

Dr. Joseph V. Dooling has been appointed health officer to succeed Dr. William H. Gale.

Doctor James W. Inches has accepted the police commissionership at Detroit at a salary of \$5,000.00 a year.

The Sunfield township board has appointed Doctor James Crawford as health officer for the township in place of Doctor T. L. Peacock, resigned.

Dr. J. N. Day has been appointed health officer to fill the vacancy caused by the resignation of Dr. T. J. Carney at Alma, Mich.

Doctor R. N. Dunnington of Hartford has located in Benton Harbor having taken the suite of rooms connected with the office of Doctor W. E. Brown in the Bell Block.

Dr. G. M. Bynington of Charlotte, Mich., attended the meeting of the American Public Health Association held in Chicago last month.

Dr. G. M. Bynington of Charlotte is in charge of the social disease section of the state board of health service.

Doctor Frank B. Gerls has resigned as school physician at Pontiac.

Dr. B. H. Shephard of Alto has moved to Lowell where the doctor will occupy the office of the late Dr. O. C. McDannell.

Mrs. Mary E. Mabbs, wife of Doctor James A. Mabbs, of Holland, died from a stroke of paralysis.

It is expected that Major Clark D. Brooks will return home some time in January.

ADDITIONAL REGISTRATIONS IN MICHIGAN. Interstate Endorsement.

		Qualifica- tion.	Michigan License.
Campbell, Charles A., Bay City, Mich.	Medico-Chirurgical Collège, Pa., 1912	1 Pennsylvania,	9- 3-18
Koch, John Christian, Detroit, Mich.	Johns Hopkins Medical School, Md., 1917	1 Maryland,	9- 7-18
Tomsu, Charles Lewis, Detroit, Mich.	University Illinois, College of Medicine, 1916	1 Illinois,	9-16-18
Letourneau, Robert A., Northport, Mich.	Northwestern University Medical School, Chicago, Ill., 1895	2 Illinois,	9-16-18
Gray, Hugh Matthias, Detroit, Mich.	University of Vermont, College of Medicine, 1914	1 Virginia,	9-21-18
Morrell, Charles B., Benton Harbor, Mich.	Pulte Medical College, Ohio, 1882	2 Ohio,	9-28-18
Windsor, Arthur, Detroit, Mich.	Western University Medical School, 1896	2 Missouri,	9-28-18
Miller, John Arthur, Detroit, Mich.	Dept. of Medicine and Surgery, University of Michigan, 1900	2 Mississippi,	do.
Farnsworth, Merton A., Battle Creek, Mich.	Vanderbilt University, School of Medicine, 1913	1 Tennessee,	10- 7-18
Foelsch, Albert J., Grand Junction, Mich.	Bennett Medical College, Chicago, 1898	2 Illinois,	10-11-18
Ginsburg, Nathaniel, Detroit, Mich.	University of Pennsylvania, Dept. of Medicine and Surgery, 1905	1 Pennsylvania,	10-24-18
Postle, James Martin, Ironwood, Mich.	Medical Department, University of Michigan, 1885	2 Illinois,	10-29-18
Robertson, Arthur E., Detroit, Mich.	Hahnemann Medical College, Chicago	1 Illinois,	11-11-18
Littlejohn, William, Bridgman, Mich.	Kansas Medical College School of Medicine, 1899	2 Missouri,	11-20-18
By Examination, October, 1918.			
Beaven, Paul W., Ann Arbor, Mich.	University Michigan Medical School, 1918	86.8%	10-10-18
Grover, Harry W., Ann Arbor, Mich.	Homeopathic Medical School, University of Michigan, 1918	86.1	10-25-18
Rosen, Robert, Detroit, Mich.	Johns Hopkins Medical School, Md., 1918	87.8	10-10-18

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

BRANCH COUNTY.

At the annual meeting of the County Medical Society held on the 14th inst., the following officers were elected for the ensuing year, viz.:

President, Dr. H. W. Whitmore, Quincy; Vice-President, Dr. Newton Baldwin, Coldwater; Secre-

tary, Dr. G. H. Moulton, Coldwater; Treasurer, Dr. G. H. Moulton, Coldwater; Member Medical Legislative Committee, Dr. Samuel Schultz, Coldwater; Delegate, Dr. A. G. Holbrook, Coldwater; Alternate, Dr. W. H. Baldwin, Coldwater.

DR. G. H. MOULTON, Secretary.

GRATIOT-ISABELLA-CLARE COUNTY.

The annual meeting of the Gratiot-Isabella-Clare County Medical Society was held at Brainerd Hospital in Alma, Dec. 19, 1918. Dr. Brainerd was called on to discuss the etiology and pathology of influenza. Dr. E. H. Foust read his paper on The Treatment of Influenza, and Dr. Barston discussed the complications. A general discussion followed these talks. The influenza was so prevalent at that time that the attendance was small. The following officers were elected for 1919:

President—Dr. C. M. Baskerville, Mt. Pleasant.

Vice-President—F. J. Graham, Alma.

Secretary—E. M. Highfield, Riverdale.

KALAMAZOO ACADEMY OF MEDICINE.

The annual meeting of the Kalamazoo Academy of Medicine was held Thursday, December 19, 1918.

Because of the prevailing epidemic of Influenza and at the request of Health Officer Rockwell the annual banquet was not held, but was substituted by an informal dinner which was hastily arranged after it was known that the ban was to be lifted on the morning of the 19th.

The meeting was called to order at 1:30 p. m. in the Academy of Medicine rooms with the President, Dr. J. B. Jackson in the chair. On motion made by Dr. Scholten and carried it was decided to elect officers by informal ballot. This informal balloting resulted in the nomination of Dr. F. C. Penoyer of South Haven, who was then by vote of the Academy elected. Dr. W. C. Huyser, Chairman of the Nominating Committee then reported for this committee as follows:

Vice Presidents: 1st, Dr. A. S. Youngs. 2nd, Dr. L. V. Rogers. 3rd, Dr. C. L. Bennett. Treasurer, Dr. J. T. Upjohn. Secretary, Dr. B. A. Shepard. Censors for three years, Dr. A. H. Rockwell, Dr. Walter DenBlyker. Delegates to State Society, Dr. A. E. West, Dr. C. B. Fulkerson, Dr. A. L. Robinson. Alternate delegates to State Society, Dr. J. C. Maxwell, Dr. N. L. Goodwin, Dr. A. J. Rigterink.

Motion by Dr. Boys that the report of the Nominating Committee be accepted and the nominees declared elected, prevailed.

The program consisted of the following papers: Influenza and Pneumonia with their Complications. Major Lynn S. Beals, Camp Custer.

Thrombosis of the Coronary Artery. Dr. James B. Herrick, Chicago.

LENAWEE COUNTY.

Doctor R. H. Nelson, of Hudson, was elected President of the Lenawee County Medical Society at the annual meeting held in Hudson. Doctor E. T. Morden of Adrian was elected Secretary, and

Doctor L. G. North of Tecumseh to represent the Society in Medical defense.

Following the election of officers the influenza epidemic as well as contagious diseases and rare cases of other diseases were discussed.

Suitable resolutions upon the death of Doctor C. Kirkpatrick were passed by the Society and a copy of the resolutions were sent to Mrs. Kirkpatrick.

After a business session and dinner the physicians visited the home of Doctor F. J. McCue of Hudson where a social evening was enjoyed. The next meeting of the Society will be held in Adrian some time during February.

NEWAYGO COUNTY.

At the last annual meeting of our Society in February, Dr. C. A. Mateer was elected President and W. H. Barnum, Secretary for this year.

W. H. BARNUM, Secretary.

SANILAC COUNTY.

The eighteenth annual meeting of Sanilac County Medical Society was held in the Court House, Sandusky, on Monday, December 23rd, 1918, for the purpose of electing officers for the ensuing year.

President, John E. Campbell, Brown City; Vice-President, L. E. Cochran, Peck; Secretary-Treasurer, J. W. Scott, Sandusky; Member Medico Legal Committee, D. D. McNaughton, Argyle; Delegate Michigan State Medical Society, W. L. Campbell, Brown City; Alternate, L. E. Cochran, Peck.

J. W. SCOTT, Secretary.

ST. CLAIR COUNTY.

At the annual meeting of the St. Clair County Medical Society held at the Chamber of Commerce Doctor T. E. DeGurse of Marine City was elected President, Doctor W. H. Morris of Port Huron, Vice-President, and Doctor T. H. Cooper of Port Huron, Secretary-Treasurer.

Following the election, a paper on the surgical treatment of nasal obstructive lesions illustrated with lantern slides was read by Doctor J. J. Moffitt. Plans for the year of 1919 were outlined and arrangements completed for the first meeting in January.

OUR HONOR ROLL.

County Secretaries are requested to report the names of all members in the Service.

Allegan County.

Dr. Elmer D. Osmun, Allegan; Dr. Robert P. Stark, Allegan; Dr. Howard W. Stuch, Allegan; Dr. Orrin D. Hudnutt, Otsego; Dr. Willard R.

Vaughan, Plainwell; Dr. Robert J. Walker, Saugatuck.

Alpena County.

Dr. Clarence M. Williams, Alpena.

Antrim County.

Dr. Bernard J. Beuker, Atwood; Dr. Edward W. Vis, Central Lake; Dr. Versile M. Gates, Eastport; Dr. Louis N. Yerkes, Elk Rapids; Dr. Worth W. Walton, Mancelona.

Baraga County.

Dr. Frank F. Marshall, Pequaming.

Barry County.

Dr. Maurice J. Cross, Delton; Dr. Birge C. Swift, Middleville.

Bay County.

Dr. F. S. Baird, Bay City; Dr. F. W. Brown, Bay City; Dr. S. L. Ballard, Auburn; Dr. C. V. Crane, Tawas City; Dr. V. H. Dumond, Bay City; Dr. E. Goodwin, Bay City; Dr. E. S. Huckin, Bay City; Dr. H. P. Lawrence, Pinconning; Dr. R. C. Perkins, Bay City; Dr. F. H. Randall, Bay City; Dr. R. E. Scrafford, Bay City; Dr. M. R. Slattery, Bay City; Dr. P. R. Urmston, Bay City.

Benzie County.

Dr. C. P. Doyle, Frankfort.

Berrien County.

Dr. Louis A. King, Baroda; Dr. Myron G. Becker, Jr., Benton Harbor; Dr. Carl A. Mitchell, Benton Harbor; Dr. Warren P. Morrill, Benton Harbor; Dr. Burton L. Stevenson, Benton Harbor; Dr. David Littlejohn, Bridgeman; Dr. Spence Van Barnum, Coloma.

Branch County.

Dr. W. J. Bien, Union City; Dr. W. A. Griffith, Coldwater.

Calhoun County.

Dr. J. T. Case, Battle Creek; Dr. E. M. Chauncey, Albion; Dr. James Elliott, Battle Creek; Dr. R. V. Gallagher, Battle Creek; Dr. J. G. Gage, Battle Creek; Dr. W. Haughey, Battle Creek; Dr. G. C. Hafford, Albion; Dr. A. A. Hoyt, Battle Creek; Dr. J. J. Holes, Battle Creek; Dr. C. W. Heald, Battle Creek; Dr. T. Kolvoord, Battle Creek; Dr. A. C. McCurdy*, Battle Creek; Dr. W. N. Putman, Battle Creek; Dr. A. H. Ross, Battle Creek; Dr. A. J. Read, Battle Creek; Dr. R. D. Sleight, Battle Creek; Dr. R. C. Stone, Battle Creek; Dr. L. H. Tower, Battle Creek; Dr. E. Van Camp, Athens; Dr. C. G. Wencke, Battle Creek.

*Died in France, November 28th, 1918.

Cass County.

Dr. Edgar C. Dunning, Cassopolis; Dr. Chas. M. Harmon, Cassopolis; Dr. James H. Kelsey, Cassopolis; Dr. Walter S. Sharpe, Dowagiac; Dr. Ralph P. Jones, Marcellus.

Charlevoix County.

Dr. Allan M. Wilkinson, Charlevoix; Dr. Hugh W. Dicken, East Jordan.

Cheboygan County.

Dr. Arthur J. Sahs, Cheboygan; Dr. Lyle D. McMillan, Indian River; Dr. Allen C. Tiffany, Mackinaw; Dr. A. McKillop, Wolverine.

Chippewa-Luce-Mackinac County.

Dr. F. C. Bandy, Newberry; Dr. M. V. Gates, Eastport; Dr. R. D. Scott, Rudyard; Dr. T. R. Whitmarsh, Ypsilanti; Dr. R. C. Winslow, Sault Ste. Marie; Dr. I. V. Yale, Sault Ste. Marie.

Clare County.

Dr. Arthur R. Mussell, Clare; Dr. Burton J. Sanford, Clare.

Clinton County.

Dr. M. S. Gregory, Eureka; Dr. W. A. Scott, St. Johns; Dr. D. H. Silsby, St. Johns; Dr. W. M. Taylor, Ovid.

Delta County.

Dr. J. L. Conover, Rapid River; Dr. H. W. Long, Escanaba; Dr. J. J. Walch, Escanaba.

Dickinson County.

Dr. Robert E. Hayes, Channing; Dr. Gustavus W. Moll, Foster City; Dr. Samuel E. Cruse, Iron Mountain.

Eaton County.

Dr. Stanley A. Stealy, Charlotte; Dr. Wells B. Fillinger, Grand Ledge; Dr. Clyde L. D. McLaughlin, Vermontville.

Genesee County.

Dr. G. H. Bahlman, Flint; Dr. C. S. Ballard, Flint; Dr. M. W. Clift, Flint; Dr. C. P. Clark, Flint; Dr. Henry Cook, Flint; Dr. V. H. DeSomaskeoy, Flint; Dr. J. W. Evers, Flint; Dr. G. R. Georing, Flint; Dr. B. Goodfellow, Clio; Dr. J. N. Houton, Flushing; Dr. J. Houston, Swartz Creek; Dr. J. G. R. Manwaring, Flint; Dr. F. B. Miner, Flint; Dr. R. S. Morrish, Flint; Dr. W. H. Marshall, Flint; Dr. J. W. Orr, Flint; Dr. A. T. Pauell, Flint; Dr. K. G. Pratt, Flint; Dr. F. E. Reeder, Flint; Dr. W. C. Reid, Grand Blanc; Dr. A. J. Reynolds, Flint; Dr. E. C. Rumer, Flint; Dr. H. E. Randall, Flint; Dr. F. A. Roberts, Flint; Dr. B. R. Sleeman, Linden; Dr. W. H. Winchester, Flint; Dr. L. S. Willoughby, Flint.

Gogebic County.

Dr. C. D. Collins, Ironwood; Dr. G. J. Curry, Watersmeet; Dr. E. B. Stebbins, Ironwood.

Grand Traverse-Leelanau County.

Dr. G. A. Holliday, Traverse City; Dr. G. M. Johnson, Traverse City; Dr. W. D. Mueller, Traverse City; Dr. E. L. Thirlby, Traverse City; Dr. L. N. Yerkes, Elk Rapids.

Gratiot-Isabella-Clare County.

Dr. Ralph E. Dawson, Blanchard; Dr. C. B. Gardner, Alma; Dr. C. D. Pullen, Mt. Pleasant; Dr. A. R. Mussell, Clare; Dr. B. J. Sanford, Clare; Dr. T. P. Vanderzalm, Blanchard; Dr. M. C. Hubbard, Vestaburg.

Hillsdale County.

Dr. W. R. Atterbury, Litchfield; Dr. T. H. E. Bell, Reading; Dr. B. F. Green, Hillsdale; Dr. E. A. Martindale, Hillsdale; Dr. H. C. Miller, Hillsdale; Dr. I. J. Stoner, Jonesville.

Houghton County.

Dr. J. F. Barton, Calumet; Dr. R. B. Harkness, Houghton; Dr. H. M. Joy, Calumet; Dr. N. S. MacDonald, Houghton; Dr. P. D. MacNaughton, Calumet; Dr. J. D. McKinnon, Calumet; Dr. F. F. Marshall Pequaming; Dr. V. L. Oler, Kearsarge; Dr. B. H. Olmsted, Calumet; Dr. L. M. Power, Hancock; Dr. James Rhines, Laurium; Dr. D. D. Todd, Adrian; Dr. A. R. Tucker, Mohawk; Dr. L. E. Werry, Calumet.

Huron County.

Dr. A. E. W. Yale, Pigeon.

Ingham County.

Dr. H. S. Bartholomew, Lansing; Dr. C. L. Barber, Lansing; Dr. M. L. Cushman, Lansing; Dr. F. J. Drolett, Lansing; Dr. Clara Davis, Lansing; Dr. C. W. Ellis, Lansing; Dr. L. A. Humphrey, Lansing; Dr. M. L. Holm, Lansing; Dr. H. B. Knapp, Lansing; Dr. H. W. Landon, Lansing; Dr. R. R. McCrumb, Lansing; Dr. C. H. Murphy, Lansing; Dr. H. A. Miller, Lansing; Dr. A. E. Owen, Lansing; Dr. R. A. Pinkham, Lansing; Dr. J. G. Rulison, Lansing; Dr. M. Shaw, Lansing.

Ionia County.

Dr. Verner H. Kitson, Ionia; Dr. Julius H. Powers, Ionia; Dr. Perry C. Robertson, Ionia; Dr. Frederick L. Morse, Lake Odessa; Dr. Nelson McLaughlin, Lake Odessa.

Jackson County.

Dr. W. B. Anderson, Jackson; Dr. H. D. Brown, Jackson; Dr. R. Cooley, Jackson; Dr. C. R. Dangler, Jackson; Dr. C. E. DeMay, Jackson; Dr. W. H. Enders, Jackson; Dr. H. L. Hurley, Jackson; Dr. Thos. Hackett, Jackson; Dr. R. G. Hen-

dricks, Jackson; Dr. W. Lake, Grass Lake; Dr. R. H. Leece, Munith; Dr. D. B. Marsh, Jackson; Dr. J. J. McCormick, Jackson; Dr. C. D. Munro, Jackson; Dr. Fred Main, Jackson; Dr. J. A. McQuillan*, Jackson; Dr. J. O'Mara, Jackson; Dr. E. S. Peterson, Jackson; Dr. G. Seybold, Jackson; Dr. G. E. Winter, Jackson.

*Killed in France, October 26, 1918.

Kalamazoo Academy of Medicine.

Dr. R. U. Adams, Kalamazoo; Dr. Ralph E. Balch, Kalamazoo; Dr. W. Collins, Kalamazoo; Dr. O. H. Clark, Kalamazoo; Dr. L. J. Crum, Kalamazoo, Dr. A. E. Henwood, Kalamazoo; Dr. W. H. Kenzie, Richland; Dr. R. G. Leland, Kalamazoo; Dr. R. A. Morter, Kalamazoo; Dr. N. W. Pinto, Kalamazoo; Dr. R. E. Weeks, Augusta; Dr. G. F. Willey, Kalamazoo; Dr. F. S. Collier, Vicksburg; Dr. D. H. Eaton, Kalamazoo; Dr. J. F. Berry, Kalamazoo; Dr. D. W. Crankshaw, Lawrence; Dr. N. D. Murphy, Bangor; Dr. John Stewart, Hartford; Dr. H. W. Wiley, South Haven; Dr. L. E. Wescott, Gobleville; Dr. W. R. Vaughn, Plainwell; Dr. O. D. Hudnutt, Otsego; Dr. E. D. Osmun, Allegan; Dr. R. P. Stark, Allegan, Dr. H. Stuck, Allegan; Dr. H. Whitney, Otsego; Dr. W. A. Singleton, Hickory Corners.

Kent County.

Dr. H. J. Beel, Grand Rapids; Dr. H. Blackburn, Grand Rapids; Dr. R. C. Breece, Ada; Dr. J. S. Brotherhood, Grand Rapids; Dr. F. A. Boet, Comstock Park; Dr. A. M. Campbell, Grand Rapids; Dr. L. H. Chamberlin, Grand Rapids; Dr. J. R. Coryell, Grand Rapids; Dr. B. R. Corbus, Grand Rapids; Dr. C. W. Deaver, Grand Rapids; Dr. P. J. DePree, Grand Rapids; Dr. H. W. Dingman, Grand Rapids; Dr. J. C. Foshee, Grand Rapids; Dr. C. M. Freeman, Ada; Dr. T. D. Gordon, Grand Rapids; Dr. H. A. Grube, Grand Rapids; Dr. J. T. Hodgen, Grand Rapids; Dr. J. N. Holcomb, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. C. Kenning, Grand Rapids; Dr. F. C. Kinsey, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. H. Muller, Grand Rapids; Dr. A. M. Martin, Grand Rapids; Dr. A. A. McNabb, Grand Rapids; Dr. A. G. McPherson, Grand Rapids; Dr. L. E. Sevey, Grand Rapids; Dr. R. R. Smith, Grand Rapids; Dr. A. B. Smith, Grand Rapids; Dr. F. N. Smith, Grand Rapids; Dr. R. E. Toms, Grand Rapids; Dr. R. T. Urquhart, Grand Rapids; Dr. P. Ver Meulen, Grand Rapids; Dr. W. E. Wilson, Grand Rapids; Dr. S. M. Wells, Grand Rapids; Dr. J. B. Whinnery, Grand Rapids; Dr. F. C. Warnshuis, Grand Rapids.

Livingston County.

Dr. Vern N. Richesen, Howell; Dr. William J. Rynearson, Parshallville.

Macomb County.

Dr. Henry G. Berry, Mt. Clemens; Dr. Harold A. Kirkham, Mt. Clemens; Dr. Charles A. Martin, Mt. Clemens; Dr. Harry F. Taylor, Mt. Clemens; Dr. Russell W. Ullrich, Mt. Clemens; Dr. Arthur J. Warren, Mt. Clemens; Dr. Robert M. Greenshields, Romeo; Dr. Edgar J. Miller, Romeo; Dr. Milton C. Smith, Romeo; Dr. C. B. Lockwood, Washington.

Manistee County.

Dr. Lee Lewis, Manistee; Dr. A. A. McKay, Manistee; Dr. H. McMullen, Manistee; Dr. W. Norconk, Bear Lake; Dr. L. Ramsdell, Manistee.

Marquette County.

Dr. I. Abrahamson, Negaunee; Dr. A. V. Braden, Ishpeming; Dr. H. T. Carriel, Marquette; Dr. W. B. Lunn, Marquette; Dr. C. J. Larson, Negaunee; Dr. I. Sicotte, Michigamme; Dr. L. L. Youngquist, Marquette.

Mecosta County.

Dr. Wm. T. Dodge, Big Rapids; Dr. Rolla G. Karshner, Big Rapids; Dr. Glen D. Ransom, Big Rapids; Dr. Gordon H. Yeo, Big Rapids.

Menominee County.

Dr. C. R. Elwood, Menominee; Dr. W. R. Hicks, Menominee; Dr. E. V. McComb, Menominee; Dr. H. T. Sethney, Menominee.

Midland County.

Dr. Chas. V. High, Sr., Coleman; Dr. John E. Heslop, Edenville; Dr. James H. Johnson, Midland; Dr. Rene J. St. Louis, Midland.

Monroe County.

Dr. Hugh R. Hildebrant, Dundee; Dr. Herbert W. Landon, Monroe; Dr. Frederick C. Thiede, Monroe.

Montcalm County.

Dr. Don V. Hargrove, Carson City; Dr. Albert S. Barr, Greenville; Dr. Albert J. Bower, Greenville; Dr. Noble W. Miller, Howard City; Dr. Lee E. Kelsey, Lakeview; Dr. Mortimer E. Danforth, Stanton.

Muskegon County.

Dr. C. M. Colignon, Muskegon; Dr. H. S. Cole, Whitehall; Dr. B. R. Eastman, Muskegon; Dr. W. L. Herick, Whitehall; Dr. F. W. Hannum, Muskegon; Dr. V. S. Laurin, Muskegon; Dr. E. N. Morford, Muskegon; Dr. E. S. Thornton, Muskegon.

Oakland County.

Dr. F. S. Bachelder, Pontiac; Dr. S. A. Butler, Pontiac; Dr. L. G. Campbell, Birmingham; Dr. L. A. Farnham, Pontiac; Dr. F. D. German, Franklin; Dr. G. W. MacKinnon, Oxford; Dr. E. E. Orton, Pontiac; Dr. G. P. Raynale, Birmingham.

Oceana County.

Dr. C. Day, Clinton; Dr. G. F. Lamb, Pentwater.

Ontonagon County.

Dr. E. J. Evans, Rockland; Dr. E. A. Florentine, Ewen; Dr. J. L. Kelliher, Phoenix; Dr. E. A. Linger, Rockland; Dr. D. L. Lutes, Victoria.

Ottawa County.

Dr. John J. Miller, Berlin; Dr. Harry Lieffers, Coopersville; Dr. Cornelius J. Addison, Grand Haven; Dr. George H. Thomas, Holland; Dr. William Westrate, Holland; Dr. Clayton A. White, Nunica; Dr. Joe DePree, Zeeland.

Saginaw County.

Dr. Harvey B. McCrory, Birch Run; Dr. George W. Peart, Burt; Dr. Geo. L. Alger, Saginaw; Dr. James D. Bruce, Saginaw; Dr. Benj. F. A. Crane, Saginaw; Dr. Walter A. DeFoe, Saginaw; Dr. Wm. F. English, Saginaw; Dr. Bernhard Friedlaender, Saginaw; Dr. Leon B. Harris, Saginaw; Dr. Matthew Kollig, Saginaw; Dr. Alexander R. McKinney, Saginaw; Dr. Henry J. Meyer, Saginaw; Dr. Wm. L. Miller, Saginaw; Dr. James L. Passmore, Saginaw; Dr. Norman J. Pike, Saginaw; Dr. Emil P. W. Richter, Saginaw; Dr. Bert B. Rowe, Saginaw; Dr. John T. Sample, Saginaw; Dr. Roy S. Watson, Saginaw.

Sanilac County.

Dr. H. H. Angle, Snover; Dr. J. C. Webster, Peck; Dr. C. G. Woodhull, Decker.

Shiawassee County.

Dr. James A. Rowley, Durand; Dr. Hermon E. Boice, Byron; Dr. Robt. R. Fox, Byron; Dr. Thos. G. Amos, Henderson; Dr. Glenn T. Soule, Henderson; Dr. Alfred F. Arnold, Owosso; Dr. James J. Haviland, Owosso; Dr. Harold A. Hume, Owosso; Dr. Jesse O. Parker, Owosso; Dr. Geo. P. Sackrider, Owosso; Dr. Egerton T. Wilson, Owosso; Dr. William H. Dunham, Shaftsbury; Dr. Arden N. Howe, Vernon.

St. Clair County.

Dr. I. P. Bowden, Port Huron; Dr. F. V. Carney, St. Clair; Dr. G. M. Kesl, Port Huron; Dr. A. J. MacKenzie, Port Huron; Dr. D. W. Patterson, Blain; Dr. G. Waters, Memphis; Dr. W. G. Wight, Yale.

St. Joseph County.

Dr. John J. Kelley, Burr Oak; Dr. Wm. E. Doran, Colon; Dr. Arthur W. Scidmore, Three Rivers.

Tuscola County.

Dr. F. P. Bender, Caro; Dr. W. C. Garvin, Milington.

Washtenaw County.

Dr. James F. Breakey, Ann Arbor; Dr. H. B. Britton, Ypsilanti; Dr. R. B. Canfield, Ann Arbor; Dr. H. W. Emerson, Ann Arbor; Dr. N. B. Foster, Ann Arbor; Dr. C. George, Jr., Ann Arbor; Dr. H. Malagan, Ann Arbor; Dr. Reuben Peterson, Ann Arbor; Dr. V. C. Vaughan, Ann Arbor; Dr. U. J. Wile, Ann Arbor.

Wayne County.

Dr. De Witt C. Adams; Dr. Edward J. Agnelly; Dr. Herman F. Albrecht; Dr. Frank C. Anderson; Dr. Warren L. Babcock; Dr. Frederick W. Baeslack; Dr. Max Ballin; Dr. Don C. Bartholomew; Dr. Charles Barton; Dr. Robert J. Baskerville; Dr. Robert Beattie; Dr. Harold A. Beck; Dr. Clarence H. Belknap; Dr. William O. Benjamin; Dr. Zina B. Bennett; Dr. Harry S. Berman; Dr. Isadore I. Bittker; Dr. Fred H. Blanchard; Dr. Jacob R. Bolasny; Dr. Edmund W. Bolio; Dr. Ralph H. Bookmyer; Dr. Richard F. Boonstra; Dr. Henry R. Boyes; Dr. Frank B. Broderick; Dr. Clark D. Brooks; Dr. William H. Browne; Dr. Wm. S. Brownell; Dr. Bruno B. Brunke; Dr. John D. Buck; Dr. Frederick G. Buesser; Dr. Glenn A. Bulson; Dr. John K. Burns, Jr.; Dr. Lowell M. Bush; Dr. Thos. P. Camelon; Dr. Geo. H. Campau; Dr. Duncan A. Campbell; Dr. Clarence Candler; Dr. Edward K. Carmichael; Dr. Glenn B. Carpenter; Dr. James G. Carr; Dr. Henry R. Carstens; Dr. John H. Carstens; Dr. Albert E. Catherwood; Dr. Aaron Lee Chapman; Dr. Clarence A. Christensen; Dr. Harold F. Closz; Dr. Don A. Cohoe; Dr. Homer C. Collins; Dr. Lannes I. Condit; Dr. Ray Connon; Dr. Bernard F. Corbett; Dr. Langdon T. Crane; Dr. Ernest K. Cullen; Dr. Hampton P. Cushman; Dr. Samuel S. Danziger; Dr. Milton A. Darling; Dr. Jos. L. Desrosiers; Dr. Harry F. Dibble; Dr. John C. Dodds; Dr. Daniel R. Donovan; Dr. Ira G. Downer; Dr. David B. Downing; Dr. George A. Drescher; Dr. Leo J. Dretska; Dr. Adolph E. Dreyer; Dr. Charles F. DuBois; Dr. Frederick Eakins; Dr. Clarence H. Eisman; Dr. Rollan R. Ensor; Dr. Arthur W. Erkfitz; Dr. George E. Fay; Dr. Ray L. Fellers; Dr. Charles J. Foley; Dr. Antonio J. Font; Dr. Walter D. Ford; Dr. Henry E. Fraser; Dr. George E. Frothingham; Dr. Claude B. Gaines; Dr. August E. Gehrke; Dr. Isaac S. Gellert; Dr. Wm. S. Gonne; Dr. John W. Gordon; Dr. James Gostanian; Dr. Raymond S. Goux; Dr. Wm. Gramley; Dr. Hunter L. Gregory; Dr. Thos. R. K. Gruber; Dr. Samuel C. Gurney; Dr. E. W. Haass; Dr. Carl Hanna; Dr. Beverly D. Harison; Dr. Winfred B. Harm; Dr. Albert E. Harris; Dr. Earl R. Harris; Dr. John G. Harvey; Dr. James

W. Hawkins; Dr. Austin W. Heine; Dr. Wm. Henderson; Dr. Preston M. Hickey; Dr. Louis J. Hirschman; Dr. Geo. Hoffmeister; Dr. Arthur D. Holmes; Dr. Lawrence N. Host; Dr. Abraham W. Hudson; Dr. Harold S. Hulbert; Dr. Leroy W. Hull; Dr. Willard H. Hutchins; Dr. James W. Inches; Dr. Harry H. Jackson; Dr. Byron H. Jenne; Dr. Alpheus F. Jennings; Dr. Charles G. Jennings; Dr. Nathan J. Jessup; Dr. Morrell M. Jones; Dr. Ladislaus R. Kaminski; Dr. Zeno L. Kaminski; Dr. Wm. J. Kane; Dr. John F. Kelly; Dr. Johnston B. Kennedy; Dr. Wm. Y. Kennedy; Dr. Frederick C. Kidner; Dr. Edw. D. King; Dr. Paul A. Klebba; Dr. Geo. L. Koessler; Dr. Abraham Kovinsky; Dr. Albert H. Krohn; Dr. Duffield R. Kruger; Dr. Alfred D. LaFerte; Dr. Rudolph H. Lambert; Dr. Carl N. Larsen; Dr. Bror H. Larsson; Dr. A. F. J. Lecklider; Dr. Ernest C. Lee; Dr. Henry R. Leibinger; Dr. Daniel J. Leithauser; Dr. Alfred E. Lemon; Dr. Paul H. Lippold; Dr. Nelson MacArthur; Dr. Robert B. Macduff; Dr. Frank B. MacMullen; Dr. Otis B. Mallow; Dr. Vincent S. Mancuso; Dr. Walter W. Manton; Dr. Thos. B. Marsden; Dr. Robert M. Martin; Dr. James D. Matthews; Dr. Kenneth F. Maxey; Dr. Emil V. Mayer; Dr. Willard D. Mayer; Dr. Frederick McAfee; Dr. Arthur McArthur; Dr. James H. McCall; Dr. Wm. R. McClure; Dr. Carey P. McCord; Dr. Crawford W. McCormick; Dr. Theodore A. McGraw, Jr.; Dr. George E. McKean; Dr. Angus McLean; Dr. H. O. McMahon; Dr. Charles H. Merrill; Dr. Ellsworth P. Mills; Dr. Robert C. Moehlig; Dr. Stephen G. Mollica; Dr. Harold L. Morris; Dr. Walter Muellenhagen; Dr. Charles R. Mueller, Jr.; Dr. Thos. F. Mullen; Dr. Arthur J. Neumann; Dr. Frederick H. Newberry; Dr. Arthur W. Newitt; Dr. Harry J. Noble; Dr. Ralph A. Norris; Dr. Wm. A. O'Brien; Dr. Harold F. Ohrt; Dr. Geo. V. Oill; Dr. Robert W. G. Owen; Dr. Leon E. Pangburn; Dr. W. R. Parker; Dr. G. C. Penberthy; Dr. O. W. Pickard; Dr. Lyman J. Pinney; Dr. George E. Potter; Dr. Presley L. Pound; Dr. Wm. H. Price; Dr. Wynand V. Pyle; Dr. O. M. Randall; Dr. Claude B. Ray; Dr. Harry W. Reed; Dr. Heinrich A. Reye; Dr. James M. Robb; Dr. Paul C. Rohde; Dr. Herman H. Runo; Dr. Frank L. Ryerson; Dr. Homer E. Safford; Dr. Wm. G. Schlegelmilch; Dr. Harry B. Schmidt; Dr. Ernest C. Schultz; Dr. James B. Seeley; Dr. Ward F. Seeley; Dr. A. M. Shafer; Dr. Reed A. Shankwiler; Dr. Lyle O. Shaw; Dr. Harold K. Shawan; Dr. Wm. L. Sherman; Dr. Burt R. Shurley; Dr. Arthur R. Smeck; Dr. A. L. Smith; Dr. Clarence V. Smith; Dr. Eugene Smith, Jr.;

Dr. Frank H. Smith; Dr. Frederick J. Smith; Dr. T. H. Smith; Dr. Clarence Stefanski; Dr. Frank T. F. Stephenson; Dr. Alexander M. Stirling; Dr. Lindley H. Stout; Dr. Luther H. Stout; Dr. Frank Suggs; Dr. Hugh A. Sullivan; Dr. Angus P. Sutherland; Dr. Rolfe Tainter; Dr. Griffith A. Thomas; Dr. Arthur R. Timme; Dr. Charles L. Tomsu; Dr. Harry N. Torrey; Dr. Emmett C. Troxell; Dr. Arthur Turner; Dr. Clyde R. Van Gundy; Dr. James A. Van Horne; Dr. George Van Rhee; Dr. Colin C. Vardan; Dr. John W. Vaughan; Dr. Victor C. Vaughan, Jr.; Dr. Milton D. Vokes; Dr. Frank B. Walker; Dr. Jos. A. Wall; Dr. Charles R. Walsh; Dr. Frank N. Wilson; Dr. George W. Wilson; Dr. Robert A. Woltenberg; Dr. Grover C. Wood; Dr. Harry B. Yoh; Dr. John C. Young, Detroit. Joseph H. Chance, Eloise; Dr. Robert H. Carmichael, Hamtramck; Dr. Martin W. Caveney, Highland Park; Dr. Geo. S. Foden, Highland Park; Dr. Richard H. Juers, Highland Park; Dr. Thomas B. Henry, Northville; Dr. Lewis N. Tupper, Redford; Dr. Roy Du B. Tupper, Redford; Dr. Howard B. Kinyon, Trenton; Dr. Romeo H. Earle, Wayne; Dr. Glen L. Coan, Wyandotte; Dr. Wm. H. Homer, Wyandotte; Dr. Joseph G. Knapp, Wyandotte.

PROPAGANDA FOR REFORM.

Leonard Ear Oil.—This is an alleged cure for deafness, sold by A. O. Leonard, New York City. Formerly it was sold on the mail-order plan as an accessory to Leonard's Invisible and Antiseptic Ear Drums. Now the "Ear Oil" is sold in drug stores. The Department of Health in the city of New York found it essentially to be liquid petrolatum with camphor, eucalyptol and alcohol emulsified by a soft soap, prosecuted Leonard, and prohibited the sale of the "Ear Oil" in New York City. The sale of the "Ear Oil" has also been prohibited in Cleveland (*Jour. A.M.A.*, Dec. 7, 1918, p. 1932).

Emetin Bismuth Iodid.—The Council on Pharmacy and Chemistry reports that because of the apparently good results obtained with it, emetin bismuth iodid has been accepted for New and Non-official Remedies. Emetin bismuth iodid is insoluble in water and dilute acids, but is decomposed by alkalis, and thus should pass the stomach unchanged but exert its action in the intestines. Those who have reported on the use of the drug in amebic dysentery report that the disappearance of ameba from stools was generally complete and apparently permanent even in chronic cases of carriers and in cases where the hypodermic administration of emetin has failed. Purging and vomiting, however, are not entirely avoided. The drug is usually

given in a single dose of three grains at the mid-day meal for twelve days (*Jour. A.M.A.*, Dec. 14, 1918, p. 2013).

PNEUMONIA PROPHYLAXIS.

E. A. Fennel, Washington, D. C. (*Journal A.M.A.*, Dec. 28, 1918), notices the slight attention that has been given to prophylaxis as compared with treatment during the recent epidemics. Theoretically, he says, any disease of microbic origin, in which spontaneous recovery is at all possible, should yield to specific prophylactic measures. That spontaneous recovery from pneumonia is possible has been long known and Fennel reviews the history of the prophylaxis methods, the work of Wright, Lister, Austin, and others in the development of prophylaxis of this disease. Especially the work of Lister is noted, who was able to construct a vaccine limited to those types most potent in the production of lobar pneumonia on the Rand in South Africa. Cecil and Austin have prepared a saline pneumococcal vaccine, much after the fashion of Lister, which was used at Camp Upton under the direction of Colonel Russell to vaccinate 12,519 men and proved an efficient prophylactic. It has, however, certain distinct disadvantages. Its production on a large scale is difficult and somewhat expensive and the time limit of its usefulness, owing to comparatively rapid autolysis, must be short. It must be given, to be effective, in at least three and preferably more doses at seven day intervals, hence the difficulties are obvious. Almost all these disadvantages, however, are overcome by the use of a pneumococcus lipovaccine in which the bacteria are suspended in an oil or lipid vaccine. Not only does the oil retard absorption, but there is reason to believe that the lipid substances directly reduce the toxicity. Such a vaccine was elaborated late in 1917. The work on it was somewhat delayed as a triple lipovaccine had to be perfected, one that subsequently came into use in the Army instead of the saline. One of the lipovaccines in the tests which could be given in one dose and cause only slight reaction was found to be so far superior to the other three types that it was made on a larger scale, and the wisdom of adopting it as a general but voluntary measure in the army was confirmed. The method of its production is detailed, and it is said to be imitated by several commercial firms. Preliminary clinical reports seem to be highly satisfactory. Fennel does not here consider the many "mushroom" vaccines that have sprung up during the pandemic and credits them with little established value. A vaccine for this purpose must come from a source that is beyond criticism and capable of large production.

Book Reviews

PRINCIPLES OF SURGICAL NURSING. A Guide to Modern Surgical Technic. By Frederick C. Warnshuis, M.D., F.A.C.S., Chief Surgeon, Pere Marquette Railway. Cloth. Price, \$2.50 net. Pp. 277, with 255 illustrations. Philadelphia: W. B. Saunders Company, 1918.

The author has attempted to impart briefly the essential, basic principles of surgical nursing, relying largely on illustrations to aid the concise statements in the text. The work is divided into nineteen chapters, beginning with the preparation of a room and its equipment in a private house, taking up the preparation of the patient, the duties of the nurse before, during and after operation, anaesthesia, the preparation of materials, the surgeon's kit, catheterization, the operation for appendicitis, and various hospital methods. The book throughout is rational and follows generally accepted procedure. An excellent table appears on page 135, giving common postoperative complications and their usual sequence. This should be of great service to the nurse in putting her on guard against these conditions. There are in all 255 illustrations, which are distributed over 267 pages, a veritable motion picture method of instruction, and one which is intensely practical. The chapter on the hospital methods is composed almost entirely of illustrations, and should be most convenient in teaching the nurse these necessary procedures.

Miscellany

SUMMARY OF STATE LAWS AND RULINGS RELATING TO THE PREVENTION OF BLINDNESS FROM BABIES' SORE EYES.

The prevention of blindness from this cause depends upon (1) the education of the general public to its dangers; (2) the use of a prophylactic in every baby's eyes immediately after birth, and (3) the prompt treatment of any case that should occur. In addition to widespread publicity, certain legal provisions are necessary to accomplish the desired result. To ascertain how far these provisions exist in the various states, the National Committee for the Prevention of Blindness has made a study of those state laws and regulations which relate to the control of ophthalmia neonatorum. A tabulation of the provisions of these laws—those from each state having been approved by its Commissioner of Health as correct to December, 1918—is as follows:

1. The reporting of babies' sore eyes to the local health officer or to a physician is compulsory in 41 States
2. The reporting law is printed on the birth certificate in 10 States

3. Local health officers are authorized and required to secure medical attention for uncared-for cases, or to warn parents of the dangers and advise immediate treatment in 28 States
4. Births are reported early enough to be of assistance in prevention of blindness work in 17 States
5. The question as to whether or not precautions were taken against ophthalmia neonatorum is included on the birth certificate in 19 States
6. Free prophylactic outfits are distributed in 22 States
7. The use of a prophylactic as a routine measure is compulsory in .. 19 States and strongly recommended in an additional 4 States
8. Popular educational leaflets, relating in whole or in part to prevention of infantile blindness, are distributed by State Departments of Health in 29 States

The Goldwater Ordinance.—In 1914 the Department of Health of the City of New York revised the Sanitary Code so as to require that no "patent medicine" should be sold in the city of New York unless the names of the potent ingredients are declared. The ordinance was bitterly fought by the "patent medicine" interests, the fight being led by E. Fougera and Co., E. N. Crittenton Co., and H. Plantin and Son. Now the Appellate Court of New York has decided that the ordinance is void, but has upheld the principle that a disclosure of the formula of medicines may be required. The underlying principle of the ordinance was the right on the part of the city to require disclosure of ingredients, and that right the Appellate Court upholds (*Jour. A.M.A.*, Dec. 21, 1918, p. 2093).

Digestive Absurdities.—Scientific investigations have demonstrated beyond any doubt the irrationality of the combinations of digestive ferments which go to make up the various brands of aromatic digestive tablets, and all chemists and manufacturing pharmacists are familiar with these facts. The excuse for manufacturing them is that there is a call for them. It is a question whether the physician who ignorantly prescribes aromatic digestive tablets is not more morally culpable than the pharmaceutical house that supplies what such physicians demand (*Jour. A.M.A.*, Nov. 2, 1918, p. 1489).

VENEREAL DISEASES AND THE WAR.

Three per cent. of the million draftees whose examination blanks first reached the Adjutant General's office in Washington had a venereal disease when they reported at camp.

According to the statement of the Surgeon General of the War Department, venereal disease constituted the greatest cause of disability in the army. For this condition, civilian communities have been responsible. Most cases of venereal disease in the army were brought in upon the induction of registered men. Virtually all cases were contracted within communities over which civil authorities have control.

The Army has done more than its part in combating venereal disease. Civil communities must continue the fight with vigor.

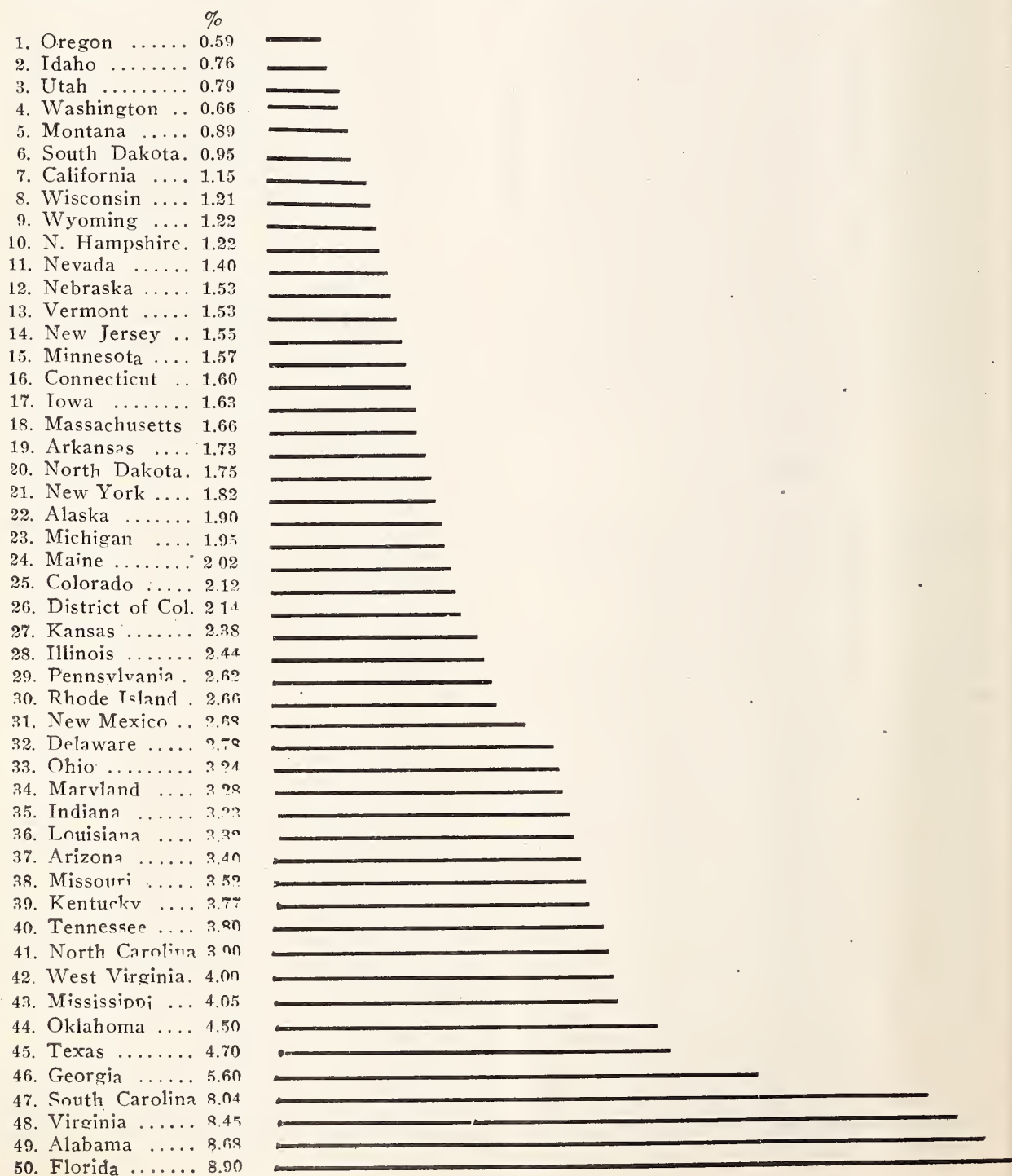
Reports from your state and city will be closely watched by Government officers and by the nation at large.

EXPLANATION OF GRAPH.

Taking Maine as an example, out of every hundred draftees who arrived at the various camps to which they were sent, two (on an average) had a venereal disease. Out of every 10,000, there were 202 who had a venereal disease. It should be noted that these figures apply only to the million men whose reports first reached the Adjutant General's office from the various Camp Surgeons. Later reports may change these results.

The figures here used were furnished by the office of Surgeon General of the Army.

The record for each state follows:



NEW AND NONOFFICIAL REMEDIES.

Emetine Bismuth Iodide.—A complex iodide of emetine and bismuth containing from 17 to 23 per cent. of emetine and from 15 to 20 per cent. of bismuth. It has the action of emetine, but when taken by mouth, it is less likely to cause vomiting than the soluble salts of emetine administered orally. It has been used with apparent good results in the treatment of chronic cases and carriers of amebic dysentery, even where the hypodermic administration of emetine has failed. The commonly used dose has been 0.2 Gm. (3 grains) daily for four days, either in a single dose at the midday meal or in divided doses.

Emetine Bismuth Iodide-Abbott.—A brand of emetine bismuth iodide complying with the N. N. R. standards. The Abbott Laboratories, Chicago.

Bismuth Emetine Iodide-Mulford.—A brand of emetine bismuth iodide complying with the N. N. R. standards. The H. K. Mulford Co., Philadelphia.

Cachets Bismuth Emetine Iodide-Mulford, 2 grains.—Each cachet contains 2 grains of bismuth emetine iodide-Mulford. The H. K. Mulford Co., Philadelphia.

Cresosote Carbonate-S. and G.—A brand of cresosote carbonate, U. S. P. Schering and Glatz, Inc., New York.

Guaiacol Carbonate-S. and G.—A brand of guaiacol carbonate, U. S. P. Schering and Glatz, Inc., New York (*Jour. A.M.A.*, Dec. 14, 1918, p. 1997).

During December the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Non-proprietary articles:

Benzyl Benzoate,
Emetine Bismuth Iodide.

Abbott Laboratories:

Emetine Bismuth Iodide—Abbott.

Hynson, Westcott and Dunning:

Benzyl Benzoate—H. W. and D.
Solution of Benzyl Benzoate, Miscible—H. W. and D.

Merck and Company:

Diethylbarbituric Acid—Merck,
Diethylbarbituric Acid—Merck Tablets, 5 grs.
Sodium Diethylbarbituric Acid—Merck.
Sodium Diethylbarbituric Acid—Merck Tablets, 5 grains.

H. K. Mulford Company:

Bismuth Emetine Iodide—Mulford.

Cachets Bismuth Emetine Iodide—Mulford, 2 grains.

E. R. Squibb and Sons:

Chlorinated Eucalyptol—Squibb.

Takamine Laboratory:

Arsaminol.

Arsaminol 0.1 Gm. Tubes.

Arsaminol 0.2 Gm. Tubes.

Arsaminol 0.3 Gm. Tubes.

Arsaminol 0.4 Gm. Tubes.

Arsaminol 0.5 Gm. Tubes.

Arsaminol 0.6 Gm. Tubes.

Solution of Benzyl Benzoate, Miscible—H. W. and D.—A solution of benzyl benzoate—H. W. and D. in 78 Gm. ethyl alcohol emulsified with 2 Gm. castile soap. It has the actions and uses of benzyl benzoate. Hynson, Westcott and Dunning, Baltimore, Md.

Diethylbarbituric Acid—Merck.—A brand of barbituric acid complying with the N. N. R. standards. The actions, uses and dosage of barbituric acid (first introduced as veronal) are described in New and Nonofficial Remedies. Merck and Co., New York.

Diethylbarbituric Acid—Merck Tablets, 5 grains.—Each tablet contains 5 grains of diethylbarbituric acid—Merck. Merck and Co., New York.

Sodium Diethylbarbituric Acid—Merck.—A brand of barbituric sodium complying with the N. N. R. standards. The actions, uses and dosage of barbituric sodium are described in New and Nonofficial Remedies. Merck and Co., New York.

Sodium Diethylbarbituric Acid—Merck Tablets, 5 grains.—Each tablet contains 5 grains of sodium diethylbarbituric acid—Merck. Merck and Co., New York (*Jour. A.M.A.*, Dec. 28, 1918, p. 2153).

Benzyl Benzoate—H. W. and D.—A brand of benzyl benzoate complying with the tests and standards of N. N. R. Hynson, Westcott and Dunning, Baltimore, Md.

To-day whatever may annoy,
The word for me is Joy,
just simply Joy

Whatever there be of sorrow,
I'll put off till to-morrow
And when to-morrow comes,
why then

'Twill be To-day and Joy again.

—John Kendrick Bangs.

THE PROTEINS IN THE CAUSATION OF DIABETES.

Whatever the dietetic errors that provoke the diabetic condition it now seems certain that it is not the carbohydrate alone that is at fault. Primarily diabetes occurs only in an individual whose metabolic organization is very weak, but it will not occur unless provoked by some gross and persistent dietetic abuse. Perhaps overeating is the most potent factor in its causation. On the other hand, in races that consume large quantities of farinaceous food with only a minimum of proteins or fats, diabetes is very rare. Neither underfeeding nor poverty is a cause; it is rather a disease of the rich.

When the expensive proteins are consumed in large quantities by those who can afford them and by those who lead a sedentary life, diabetes is likely to follow. It is more than likely that even without a proper balancing of the food a reduction in the total quantity of food consumed would in itself reduce the incidence of diabetes. It is the protein element that must be curbed rather than the carbohydrates in diabetes. In the newer understanding of this disease this is realized, and far from withdrawing the carbohydrates they are often advocated as a cure for diabetes. It is from this that the so-called oatmeal cure received its reputation. Heretofore the dietetic treatment of diabetes contemplated an almost unlimited supply of proteins and a complete withdrawal of the carbohydrates. Yet it was understood that the threatening of an acid condition was a sign for the restoration of the carbohydrates, in spite of the increase of the sugar output.

Overindulgence is perhaps the most important factor in the production of a systemic hypoalkalinity. The taking of food in which the proteins predominate increases the acid production and increases the hypoalkalinity. The proteins, in fact, are acid foods. It is pernicious in any glycosuria to allow an excessive meat diet. Very often a marked limitation or even abstinence for a period will of itself cause the disappearance of the sugar. Moreover, the defective utilization of the sugar is not nearly as ominous to the organism as an increase in the acid state of the body as a result of protein intoxication or excess. Indeed, it is because of the defective utilization, where only a small amount of sugars can be oxidized at one time out of the amount supplied, that the sugars must be pressed so that at least this small amount can always be carved out of the total supply. There is no harm in the presence of sugar in the urine. It is merely an index of the condition. The amount of sugar only shows how much of it the system could not utilize.

Before much improvement in the carbohydrate

utilization can occur the nitrogenous equilibrium must be established. The prescribing of a meat diet in this weakened metabolic organization but increases the nitrogenous inequilibrium. Those individuals who exist on the diet heretofore prescribed for the diabetic—that is, high protein and low carbohydrate—are the ones most likely to be attacked with diabetes. Diabetics get along much better on a normal well balanced diet than on any special diabetic dietary that has not the balancing as its chief purpose. Because the basic cause of diabetes is a weak metabolic organization the diet must be at a minimum in order to tax the metabolic process least, but the diet must favor the carbohydrates rather than the proteins. The diet is the provoking element in a damaged organization. With normal metabolism no one can foretell how much abuse the organism can stand without injury. If organotherapy has any value in the treatment of diabetes it is because the basic metabolic weakness in diabetes is probably of glandular origin. It is most probable that not only the pancreas but also the other glands of internal secretion are concerned, and the gland extracts usually administered supply a deficiency that the defective glands cannot.—*New York Medical Journal*, July 27, 1918.

JOB'S ARE CLASSIFIED.

In an article on "Modern Industrial Medicine," in the August number of the *American Medical Journal*, C. G. Farnum says:

"In a really modern industrial plant, where the department of medical supervision is worthy of the name and where the safety engineer and the superintendent of employment are alive to modern needs, the individual jobs are classified and indexed as to availability for physical defectives. How simple the whole procedure then becomes! What matters it how many arms, or legs, or eyes, or ankylosed joints a man chances to possess?

"Some of us have statistics concerning a period of years that bring out two striking facts in connection with this work: That the labor turnover varies inversely as the physical defects of the laborer, and, that the worse the physical defect, the less the accident incidence. These statistics may be considered the measure of the physical and mental compatibility of the man with his job."

Don't worry. When everybody has been tonsillectomized there will still be the spleen, which seems not to have any useful function.

Some French blind schools display on their walls the warning: "To pity is not to console."

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Original Articles

THE HYPOPHYSIS AND HYPOPHYS-EAL DISEASE.

E. W. SCHNOOR, M.D.
GRAND RAPIDS, MICH.

Confined to a small recess in the sphenoid bone is a ductless gland which was first described by Vesalius in 1553 as "the glans pituitans incipiens," believing it secreted mucus. In 1778 it was termed the hypophysis cerebri by Sommering.

The pituitary body or hypophysis cerebri is a small somewhat rounded organ occurring in all vertebrates except the lowest fishes. It weighs from 5 to 10 grains. According to Zander its size is quite variable: 6 to 10.5 mm. in the sagittal diameter, 10 to 14.5 mm. in the vertical, 5 to 9.75 mm. in the transverse. The dura mater which forms the inner walls of the cavernous sinus is its main support.

This gland consists of three parts: a large glandular anterior lobe or pars anterior, a smaller pale posterior lobe or pars nervosa and the pars intermedia of Herring.

The pars anterior develops from an upgrowth of the buccopharyngeal ectoderm about the fourth week. This diverticulum is known as Rathkes pouch and its lumen becomes nipped off by the sphenoid bone later. Histologically this lobe consists of a vascular mass of epithelial cells which Flesch describes as two types: chromophobe or neutrophilic non-granular protoplasmic cells and chromophile or granular protoplasmic cells. The latter type Schoenemann classifies as to staining characteristics of the granules, eosinophile cells and basophile or cyanophile cells. Sections from different parts of the gland differ as to the predominating type of cell, central area the eosinophiles seem to be more abundant while at the periphery the basophiles. Erdheim found the chromophobe cells predominating in infancy. Later the chromophile cells predominate. A

functionating gland as described by Delille contains an abundance of colloid substance both intra- and extra-cellular, while in gland nearly exhausted the cells are granular, stain poorly, nuclei are pale and some neutrophilic cells without vacuoles. The colloid substance has been shown by Thaon and more recently by Grünbaum and Grünbaum to discharge into the blood stream. This glandular lobe is surrounded by a connective tissue capsule.

Sometimes a band of epithelial cells is found traversing the sphenoid bone connecting the pars anterior with a small mass under the pharyngeal mucosa, the Rachendach Hypophyse of Erdheim and Haberfeld. This mass of cells may develop into functionating tissue, both normally apparently and as a compensatory hypertrophy in pathological conditions of the hypophysis. Accessory glandules have been found.

The posterior lobe or pars nervosa, practically non-vascular, develops from a down-growth of the primitive third ventricle with which it communicates by a stalk or infundibulum. It is composed of loose neuroglial and ependymal tissue, invested by an epithelial layer, the pars intermedia.

The pars intermedia is derived from the posterior layer of Rathkes pouch which becomes thickened. The pars intermedia may secrete a colloid substance which passes into the pars nervosa. This colloid substance is probably the same substance which Herring describes as hyaline bodies occurring between the nerve fibers. From these spaces Herring believes the substance is probably absorbed by the lymphatics and carried into the infundibular cavity and thence to the third ventricle. Cushing and Goetsch claim that the cerebro-spinal fluid contains the active principle of the posterior lobe. Brown pigment granules are found in this part of the gland which Vogel in his researches has shown vary as to age, sex and disease. Under ten months they are usually absent but gradually increase after four years being more abundant in males. Stumpf con-

siders these granules as degenerative products of the anterior epithelial cells which have invaded this lobe. Lewis believes they are of little significance.

The gland is surrounded by a network of capillaries. The blood supply as described by Goetsch and Dandy differs from that described in some monographs. The anterior lobe supply comes from a number of small arterioles which pass down the stalk, while the posterior lobe is supplied by a single artery from behind. The pars nervosa from vessels of both parts.

Dandy has demonstrated sympathetic nerve fibers passing with the vessels to the gland.

Physiologists have received much of their information concerning the action of this gland through the use of extracts from the whole gland or its individual lobes. Substances have been extracted with water, glycerin, alcohol and salt solution, either from the fresh or dried gland.

Oliver and Shafer were probably the first to demonstrate that glandular extract, even though raised to the boiling point, when injected intravenously, produced a rise in blood pressure. This substance was later shown by Howell to be derived from the posterior lobe (pars nervosa and its epithelial investment). Following the injection there was an initial fall in the blood pressure of short duration and then a subsequent rise of from 20 to 30 minutes with slowing of heart. The action became less with repeated injections. Shafer and Vincent isolated two substances, one a substance which stimulates and increases blood pressure, the other depresses the nervous system. They further showed that the rise in blood pressure was associated with a general vaso-constriction. Magnus and Shafer observed a frequent and prompt distention of the renal vessels with a resultant polyuria following posterior lobe injections. Wiggers has shown that cardiac tracings indicate a depressing influence on the heart to be a constant and characteristic one largely due to direct cardiac action. Pemberton and Sweet demonstrated inhibition of the pancreatic juice by injection of P. D. & Co.'s infundibular extract. Posterior lobe extract also stimulates the involuntary muscle, in the intestines intense peristalsis is produced followed by purgation and sometimes by vomiting, in the uterus and the bladder and dilates the pupil. The mammary muscle is stimulated and in breasts containing milk, the milk oozes out.

Alimentary glycosuria was produced by

Claude and Boudouin by the injection of whole gland or posterior lobe extract. They never obtained the glycosuria if the subject had fasted and only obtained it when a meal of milk, bread and sugar, representing 140 to 150 grams of glucose, was given shortly after injection of the extract. They offer as an explanation of their results, that probably the pituitary extract determines a hepatic insufficiency, thus preventing the fixation of glucose in the state of glycogen which may be due to direct action on the liver or to stimulation of the nervous system. They further state that pituitrin stimulates the sympathetic and all the general effects as pallor of skin, malaise, and contraction of non-striated muscle, are readily explained by the excitation of the sympathetics. In a later experiment they showed that, in therapeutic doses, adrenalin also probably acts like pituitrin by hindering the fixation of glucose in the liver in the form of glycogen and producing an alimentary glycosuria. Aschner finds that the absence of the hypophysis diminishes adrenalin glycosuria. Miller and Lewis report that intravenous or intraperitoneal injections of saline extracts of either the anterior or posterior lobes will only occasionally produce a transitory glycosuria in dogs.

Anterior lobe extracts were found by Hamburger and later confirmed by Lewis, Miller and Matthews to cause a primary fall in the blood pressure followed usually by a secondary rise in pressure above the level existing at the onset of the experiment. The latter find that the pressor substance is derived from that part of the pars anterior bounded by a mass of pars intermedia cells. Thus this action is probably due to pars intermedia secretion discharged into the area.

Lewis, Miller and Matthews found that injection of extracts of pars nervosa and pars intermedia had precisely the same effect and believe that the pressor substance is secreted by the pars intermedia and passes into the pars nervosa, possibly by the blood or the hyaline bodies. Also that the depressor substance of the pars anterior, the pars nervosa and the pars intermedia is soluble in alcohol. In hypopituitarism, Cushing's observations show a temporary rise in temperature after anterior lobe injections. Shafer has noted that feeding anterior lobe extract to young rats caused an exaggeration of their growth. Miller fed a series of young white rats with anterior lobe extract and another series with posterior lobe extract. The results when contrasted with the

controls were negative as regards weight and also the skeleton as shown by X-ray. In Cushing's experimental work life could be prolonged in threatened hypophyseoprivia by the injection of whole gland or anterior lobe extract whereas posterior lobe extract would fail.

Prolonged administration of either whole gland extract or of pars nervosa alone leads to marked nutritional disturbances and alterations in various organs of the body. The suprarenals are at first stimulated and later exhausted. The thyroid shows decreased colloid and there is a tendency to hypothyroidism, probably due to vaso-constriction in the gland. Liver and spleen show necroses. Kidneys are congested and there is an increase in the volume of the glomeruli. Lungs are congested.

Attempts at implantation or transplantation have been unsuccessful. Exner's rats showed an increased growth for a short time. Crowe, Cushing and Homans prolonged the life of animals after total hypophysectomy by immediate reimplantation of the gland into the cerebral cortex which remained viable for at least a month.

Disturbances in the internal glandular system affect the pituitary body. Erdheim and Stumme examined 122 hypophyses of pregnant women and concluded that the organ increases in size and weight in pregnancy and after several pregnancies becomes permanently enlarged, there being a tendency to adenomatous hyperplasia in fully 10 per cent. The hyperplasia is chiefly of the chromophobe cells. Vogel has observed a decrease in the brown pigment granules in the posterior lobe in pregnancy. Gley's thyroctomized rabbits showed a hypertrophy of the gland. Fischero noticed that castrated steers and cocks all had at autopsy several months later, a hypertrophy of the anterior lobe. Comte noted marked hypertrophy in 12 of 13 cases of goitre with degeneration of the thyroid exclusive of Basedows, while Benda found the hypophysis small in Basedows.

What role this small body plays in the development and maintenance of physiological equilibrium has been the subject of much controversy. Among the early experimenters are Marinesco and Vassale and Sacchi. All their animals died following total hypophysectomy. Friedman and Mass in 1900 reported that extirpation of the pituitary body was compatible with life. La Monaco and Rynbeck in 1901, Gagleo in 1902 and Pirrone in 1903 also arrived at the same conclusion. Fischero in 1905 found that partial removal

of the gland in young chickens checked their growth. Paulesco in 1908 extirpated the gland in 22 dogs and 12 cats. Most of these animals developed a peculiar symptom complex known as cachexia hypophyseopriva resulting in death in two or three days. Few survived but at autopsy showed viable anterior lobe cells. He thus concluded that total removal of hypophysis was fatal while partial removal of anterior lobe was compatible with life. Reford and Cushing in 1909 reported results that agreed with Paulesco's observations. In 1910 Crowe, Cushing and Homans conducted a more detailed study of a larger series of canine hypophysectomies and again confirmed Paulesco's contention, but the average duration of life was longer than Paulesco's observations showed. Puppies lived longer than adult dogs. They further showed that total removal of the anterior lobe was equivalent to total removal of the gland and that animals deprived of the posterior lobe survived indefinitely. Partial removal of the anterior lobe in some of Paulesco's and Cushing's animals lead to an increase in the deposition of fat, sometimes associated with polyuria and transient glycosuria with shedding of hair and lessening of sexual activities.

Cachexia hypophyseopriva or the symptom-complex produced by the removal of the anterior lobe or the whole gland usually appeared from 30 hours to two weeks after the operation depending on the age of the animal. Early usually a transient glycosuria and polyuria. The animal becomes apathetic, inactive, stiff, gait is unsteady, temperature becomes subnormal, pulse and respiration slow, back arched, incurvature of tail, irregular contractions and coarse movements and finally coma and death.

Handelsmann and Horsley in 1911 issued a preliminary report refuting Cushing and co-workers' conclusions, total removal of the hypophysis in monkey was not incompatible with life and further more that three animals, a dog, cat and monkey survived total removal of the anterior lobe. Paulesco also observed that mere separation of the infundibulum lead to death similar to total hypophysectomy. Cushing disagrees showing it corresponds to partial removal of anterior lobe by incomplete destruction of blood supply to anterior lobe. Handelsmann and Horsley also disagreed and more recently Morawski who experimented with monkeys and suggested that Paulesco's result was probably due to opening the third ventricle. Total extirpation of hypophysis by Ascoli

and Legnani was followed by cessation of development and a tendency to obesity. The epiphyseal ossification was delayed, teething occurred late and sexual organs remained infantile. The thyroid showed colloid atrophy, thymus premature involution being one-fifth normal volume, spleen atrophic and cirrhotic, malpighian follicles has disappeared, the fascicular and reticular zones of the suprarenals reduced to one mixed layer. The longest survival was eight months. Aschner recently declared that the pituitary body was essential so far as development is concerned. He noted no genital changes following removal of the posterior lobe. Sweet and Allen very recently announced that the entire canine hypophysis can be removed without danger to life.

Very interesting carbohydrate tolerance experiments were reported by Goetsch, Cushing and Jacobson in 1911. Simple operative manipulation of the infundulum produced a transient hyperglycaemia and for a few days an alimentary glycosuria. This they attributed to setting free of a reserve deposit of posterior lobe secretion which acted upon the liver causing a sudden release of glycogen. If a considerable portion of the posterior lobe with its epithelial investment was removed or the secretory discharge through the infundibulum interfered with by damaging it or by scar tissue later, the temporary lowering of tolerance was followed by an abnormal increased tolerance for sugars. This would be lowered by the injection of posterior lobe extract. Removal of the anterior lobe partly resulted similarly to the manipulation of the infundibulum, but no over tolerance followed, while injection of posterior lobe extract as before reduced the tolerance, anterior lobe extract being inactive or far less potent in this respect. Thyroid extract was also tried with negative results.

Metabolism in nearly hypophysectomized dogs was observed by Benedict and Homans: the development of the animals ceased, their sexual activity did not develop and if already established was profoundly affected, excessive fat deposits occurred and accounted for the increased weight, body temperature remained slightly subnormal while pulse and respirations became slow. Total metabolism as measured by CO₂ output was markedly decreased. Aschner and Porges have demonstrated a decreased consumption of oxygen after loss of the pituitary body.

Further studies in carbohydrate metabolism were reported by Weed, Cushing and Jacobson

in February 1913. They summarize their work as follows: (1), Pique of hypophysis in the rabbit is comparable in its glycosuria response to a pique of Bernards so-called sugar center in the fourth ventricle. (2), Stimulation of the superior cervical ganglion by faradization or by manipulations necessary for exposure caused glysuria in dog, cat and rabbit. (3), Stimulation of superior cervical ganglion after exclusion of all possible downward impulses to abdominal viscera by way of vagi, cervical sympathetic trunks or spinal cord leads to glysuria. (4), Stimulation of superior cervical after separation of all synapses of the sympathetic system by administration of nicotine causes glysuria. (5), Direct faradic stimulation of the hypophysis itself after exposure by a transphenoidal operation gives glycosuria even after preliminary transection of the spinal cord and cervical sympathetic trunks. (6), If the posterior lobe of hypophysis was previously removed by operation the usual stimulation of superior cervical ganglion failed to give glycosuria. (7), Direct faradic stimulation of hypophysis provoked glycosuria even after transection of spinal cord above the splanchnics. (8), A Bernards pique will likewise cause glycosuria even after transection of spinal cord above the splanchnics. These results were obtained only when there was mobile glycogen in the tissues.

Our knowledge concerning the pathology of this small organ is practically limited to neoplasms. Munzer classifies the pathological processes as follows: 1, atrophic conditions; 2, hypertrophic and hyperplastic conditions; 3, tumors. Scattered through the literature I find reports of the following types of tumors: granulomata, colloid and cystic enlargements, chromophobe-eosinophile and basophile adenomata, carcinoma, sarcoma, angio-sarcoma, periepithelioma, endothelioma, teratoma (Hecht), glioma and psammoma.

Circulatory changes, anemia, hyperemia and hemorrhages are stated to occur. Lewis finds that the most common tumors of the infundibulum develop from inclusions of the cranio-pharyngeal duct and may be cystic or solid. These are more frequently associated with Frohlich's syndrome than any other type of intra-cranial tumor. Struma and adenoma of the anterior lobe are the most frequent and practically constant findings in acromegaly. Fischer has emphasized this fact most forcibly recently. Erdheim considers an eosinophile adenoma characteristic of acromegaly. Pars

intermedia tumors are rare having found three in the literature, cases of Erdheim, Cushing and Boyce and Beadles. Lewis further finds that hypophyseal cells tend to reproduce sarcoma morphology when proliferating and advises that growths should be stained with stains that differentiate the granules of the hypophyseal cells.

Tumors may excavate the sella turcica, even open the sphenoid sinus and discharge cerebrospinal fluid from the nose, further they may infiltrate the surrounding brain tissue or as the tumor increases in size compress adjacent parts. As a rule the malignancy of pituitary tumors is relatively low with very slight tendency to metastasis. Hecht states that hypophysis tumors are on the whole slow growing.

Specific hypophyseal symptoms, symptoms due to disturbances of the internal secretion may occur alone or in combination with symptoms due to enlargement of the gland, altering the intracranial relations and conditions.

ACROMEGALY-HYPERPITUITARISM.

This condition was first described by Marie in 1886 believing it the result of lessened function of the gland. Messalongo, Benda and Starch thought acromegaly was due to increased activity of the gland, Gauthier endorsed by Strumpell and Arnold construed acromegaly as a metabolic disorder manifested first in hypophyseal change. Mayer agrees with Stumme that possibly the first impulse leading to acromegaly lies in the generative organs. Marburg suggested hyperfunction of pituitary results in acromegaly while hypofunction in general adiposity and genital atrophy, if complete absence of function to a severe cachexia, Keith explains cause somewhat differently, the acromegalic changes being in the nature of a true growth and probably due to a pituitary substance sensitizing the tissues, the actual cause of the growth being mechanical stimuli arising from muscular action and mechanical movement. The growth changes in acromegaly are similar to those occurring normally in the anthropoids and the neanderthal race. Munzer regards acromegaly as a disturbance of the polyglandular system, not primarily hypophyseal and observed that with the hypophysis other glands of internal secretion were affected. Since the most common pathological finding and a practically constant one is an eosinophile hyperplasia or adenoma of the anterior lobe, Benda, Sternburg, Lewis, Cushing and Fischer conclude that acromegaly is a result of hyper-

activity of the anterior lobe or cells derived from it. Recent surgical results both here and abroad support this view.

Nothdurft recently reported a basophile adenoma of the neurohypophysis found in a case that died as a result of an endothelioma of the dura in the vault. This case had no symptoms referable to the hypophysis, the adenoma being the size of a millet seed. Whether these basophilic cells had invaded the posterior lobe from the anterior lobe or whether the tumor had extended into the posterior lobe from the anterior lobe, he could not determine. He believes this case illustrates another point in favor of the adenoma hyperplasia or adenoma as the cause of acromegaly.

Acromegaly does not occur with all hypophyseal changes, on the contrary autopsies have shown marked alterations without acromegalic phenomena, also acromegaly has occurred without macroscopic changes in the gland; but Erdheim has proven that more careful microscopic examination of the latter reveals alterations. Lewis has pointed out that the pharyngeal hypophysis may be hyperfunctionating, should the hypophysis be normal. Fischer believes that the cases of acromegaly reported without eosinophile hyperplasia or adenoma in the hypophysis can be shown to be cases of syringomyelia with gigantism or some other disease.

Acromegaly is characterized by an overgrowth of the skeletal and soft tissues especially pronounced in the face and the extremities. The onset is insidious: indefinite symptoms as headache, dullness, dizziness, nervousness, weakness, fatigue, flatulence, constipation and epistaxis may occur. Usually the earliest manifestations appear in the hands and feet, often preceded by neuralgic pains or paresthetic sensations.

Keith has made a very careful study of the changes in the skeleton. The osseous-vascular system is altered, the capillaries and venous sinuses are increased in number and size, the surface of the bone is pitted and marked by numerous vascular foramina and impressions. The cranial vault is thickened, commencing in the forehead and spreading backward limited on each side by the temporal lines. The capacity is probably somewhat increased in height. Frontal sinuses greatly expanded. Supraorbital ridges exaggerated and thickened. The whole outer orbital wall is actually prolonged and moved forward. Theinion is moved upward on the occiput from 8 to 10 mm. Sella turcica is expanded or excavated. Temporal

fossae increased in height. Mastoid processes are wider apart. The external auditory meatus is larger, deeper and depressed 10 mm. or more. The mandible projects downward and forward, the ramus markedly shortened. The temporo-maxillary joint presents an apparently worn away articular eminence until its anterior parts form merely a margin to the glenoid fossa. Palatal area is actually diminished especially that of the lower dental arcade. The teeth are separated. Ribs and cartilages are often enlarged. Cervico-dorsal kyphosis usually present in advanced cases.

Changes in the soft tissues occur coincident with the skeletal alterations. The facies are quite characteristic: the face is increased in length, the features are coarse, eyelids are thickened, ears large, nose large and heavy, mouth large with thickened lips. The tongue is hypertrophied and fills the mouth. The larynx is large and voice may be deep and strong. The chest is large and the clavicles and sternum usually protrude. Hands are large and greatly thickened, fingers spade-like, thenar and hypothenar eminences enlarged. Feet huge and usually flat. The skin, mucous membrane and viscera are usually hypertrophied. Connective-tissue may be increased throughout the body, especially about nerve trunks and may crowd around the nails. The nails may be thin and small. The sexual organs may be enlarged or on the other hand atrophic. General muscular weakness is frequently pronounced. Falta and Nowaczynski have recently demonstrated that acromegalics on a purin-free diet excrete often more than twice the normal amount of urea. Ellis's case showed a creatinuria. Borchard states that 35.5 per cent. of the cases of acromegaly have glycosuria and an additional 5 per cent. lowered sugar tolerance.

There may be a tendency for acromegaly or hyperpituitarism to be transformed into a hypo-active state leading to obesity, increased sugar tolerance, polyuria and lowered blood pressure, males becoming impotent and females developing amenorrhea. These types are termed dyspituitarism. Von Bonin believes pure cases of either hyperpituitarism or hypopituitarism are infrequent but both types are usually mixed.

The course is usually chronic, the onset is insidious, the early subjective symptoms often obscure and not understood. Much depends upon the type of growth in the hypophysis, the extent of the intracranial pressure and the question of metastasis, and also the occurrence

of complications. Operative intervention may also modify the course. Sternberg states that true sarcoma of the hypophysis runs an acute course, usually less than four years.

GIGANTISM.

The occurrence of both acromegaly and gigantism with hypophyseal lesions has led many observers to believe that they are manifestations of the same morbid condition. Mas-salongo concluded that acromegaly was delayed or abnormal gigantism; if the onset of the condition occurred in youth, gigantism would result, if in adult life acromegaly; while if during adolescence and extending into adult life a combination of both would result, a mixed type. Sternberg found that 40 per cent. of all giants were acromegalics, when both occurred the former always appeared first.

LEONTIASIS OSSEA.

Bassoe suggests that gigantism, acromegaly, leontiasis ossea, osteomalacia and osteitis deformans may have an etiological relationship. Hoppe more recently believes that leontiasis ossea may be a form of acromegaly.

FROHLICH'S SYNDROME—HYPOPITUITARISM.

First described by Frohlich of Frankl Hochwart's clinic in 1901 as a symptom-complex which occurs with hypophyseal disease. It is characterized by atrophy of the generative organs with accompanying diminution and loss of function, impotence in the male, amenorrhea in the female. Associated with the sexual disturbance is a marked general deposit of adipose tissue, hair frequently becomes brittle, perspiration is decreased and skin becomes coarse. If the onset of the condition occurs before complete development, dwarfism or infantilism result and the hair of axilla, pubis and face is deficient. Males may show feminine characteristics and females masculine characteristics. Cushing's cases showed polyuria, polydipsia and increased tolerance for carbohydrates. Not infrequently genital and sexual disturbances precede adiposity, but the adiposity may be absent or followed by a cachexia. Lewis has found cystic degeneration of the tumor in the cases with cachexia. These tumors resembling somewhat the multilocular cysts of the jaw. Low blood pressure is common. Temperature may be subnormal which Cushing considers due to lowered metabolic activity. Appetite is often ravenous, sometimes a peculiar craving for sweets is present. Dullness, drowsiness, early fatigue, weakness and psychic disturb-

ances may appear. Cushing has frequently observed epileptiform attacks and suggests that an undue excitability of the cerebral cortex may be a consequence of posterior lobe insufficiency, though the cases unmistakable uncinate gyrus seizures showed an interpeduncular extension of the growth, which doubtless irritated the adjoining uncinate gyri.

Various theories have been advanced as to the origin of this condition; Frohlich considers it due to a lessened secretion of the anterior lobe. Erdheim denied this believing it due to injury of as yet some unknown center in the base of the brain, possibly pressure on the nervous structures in region of the infundibulum and near the third ventricle, since the syndrome occurred without pituitary disease proper. Fischer disagrees with Erdheim maintaining that dystrophia adiposia genitalis does not occur through pressure on an unknown center but by damage to the pars nervosa and the infundibulum. Whether this damage or destruction of the nervous part leads to interference in the transmission of the secretion of the anterior lobe is not known. Stumpf thinks the relation between the brain and the hypophysis is disturbed either by the interruption of nervous pathways or by insufficiency of secretion of the anterior lobe into the infundibulum or neurohypophysis. He states that in increased cerebral pressure the anterior lobe is compressed before the nervous part, even with considerable pressure the histological structure is preserved independent of the phenomena of dystrophia genitalis and that high-grade adiposity with genital atrophy may occur in chronic hydrocephalus without sellar changes. Cushing assumes that a pathologic hypoplasia of both lobes of the gland has occurred. He states that most cases previously recorded have been either interpeduncular cysts or teratomatous growths arising from an anlage related to the original pharyngeal pouch which serves to compress the gland directly. In the typical cases, the symptoms date back from childhood and as a consequence of anterior lobe involvement the patient remains small.

Other tumors adjacent to the hypophysis have been reported causing this syndrome:—Zak's case showed a psammoma of the dura mater compressing the infundibulum, Ottenbergs case a calcified fibro-endothelioma of the dura in the sella and Kummel's case an aneurism of the circle of Willis. Both compressing the infundibulum and the neurohypophysis.

Should pressure conditions or other condi-

tions causing a stasis of the posterior lobe secretion leading to this syndrome transmit pressure to the anterior lobe, the anterior lobe may respond by a hyperlasia and hyperactivity of the anterior lobe and its cells. This may be followed by an increase of growth in conjunction with the dystrophy-adiposia-genitalis. This is known as Cushing's Syndrome.

ADIPOSIS DOLOROSA.

Whether adiposis dolorosa is related to this syndrome has not been definitely proven although Burr's case showed a glioma of the hypophysis and Price's two cases showed changes resembling adeno-carcinoma in the gland.

DIABETES INSIPIDUS.

The relation of the hypophysis to increased urinary excretion is not as yet clear. Magnus and Shafer demonstrated that the posterior (or possibly the pars intermedia cells) secretes a diuretic substance causing a vascular dilatation and stimulation of the renal cells resulting in polyuria.

Clinically acromegaly and Frohlich's syndrome are not infrequently accompanied by polyuria at some stage in their course.

Frank reported a skull bullet wound, in which the bullet lodged in the sella turcica region as shown by the X-ray, followed by diabetes insipidus. He states there are often family cases of idiopathic diabetes insipidus and concludes there is an inherited increased function of the pars intermedia. Simmonds recently reported a case with a metastatic growth in the clivus and posterior saddle destroying the posterior lobe but not the pars intermedia and concluded that since Shafer had shown that the anterior lobe extract caused no polyuria, the pars intermedia was the cause of the diabetes insipidus present. Lewis and Matthews experimentally produced polyuria resembling diabetes insipidus in 9 of 18 animals by hypophysis trauma. The frequency with which polyuria occurred in posterior lobe and infundibular stimulation and the character of the urine excreted suggested that diabetes insipidus is dependent on the hypersecretion of the diuretic substance, secreted by the pars intermedia cells into the posterior lobe. Haushalter and Luccin have reported a case of simple polyuria in a child of 6 years which existed for 9 months with no other symptoms than polydipsia and polyuria, when the child suddenly had a convulsion which was followed by coma and death. At autopsy a tubercle size of a small nut was

found in the base of the gland. Cushing's case showed a gumma of the anterior lobe which he interprets as having stimulated the pars intermedia into abnormal activity.

Fleeting glycosurias of basal fractures Cushing thinks may be due to pituitary trauma directly or transmitted.

The hypophysis being located in such a small cavity the neoplasms of this gland either enlarge the sella, often eroding its walls or they grow inward intra-cranially and thus disturb intra-cranial relations, giving rise to either focal phenomena involving individual nervous structures or general increased intra-cranial pressure symptoms, often both.

Increased intra-cranial pressure symptoms: headaches, often frontal in type, varying in intensity, sometimes occurring paroxysmally. In most of Von Eiselsberg's cases it was very severe. Rath states it was present in 81.6 per cent. of his cases. Deep orbital pain may be present. Vomiting occurred in 75 per cent. of cases in Frankl Hochwart's clinic while Cushing found it less frequent. Subnormal temperature, Bartels and Rath state is always present. Pulse may be slow but Bartels found it constantly increased. Convulsive and epileptiform attacks may occur. Venous stasis may be evident in the large veins of scalp. Psychic behavior of the patient may be quite affected, shown by intellectual deterioration, melancholia, delusions, stupor, dullness, delirium and perverted or excessive appetite. Hyashi explains the psychic disturbances by the pressure exerted on the frontal lobes. Focal phenomena are evidenced chiefly in the involvement of vision and the oculo-motor nerves. Visual disturbances appear during the course frequently late due to encroachment of the growth on the optic chiasma. Should these growths be vascular or cystic in type and vary in size or rupture, the findings will vary. The onset is usually slow. Bitemporal hemianopsia is common though at first may be unilateral. Evans finds that 50 per cent. of the cases show partial or complete primary atrophy. Photophobia, amaurosis, amblyopia, nystagmus, exophthalmos, concentric contraction of visual field, paralysis of the third and sixth nerves and complete ophthalmoplegia may occur. Wernicke hemiopicpupil phenomena Evans found rarely present.

Oppenheim has called attention to the importance of the X-ray in the diagnosis of pituitary disease. Any change in the sellar outline may be correlated with a definite change in the

hypophysis. Cushing considers profile measurements exceeding 15 mm. antero-posteriorly and 10 mm. in depth as indicating an enlargement of the organ in the adult. The normal measurements as given by Keith are antero-posterior 10 to 12 mm. and 8 mm. in depth. Progression of the disease may sometimes be noted by repeated radiograms.

PLURIGLANDULAR PHENOMENA.

Possibly the altered functional states of the pituitary body or any other gland in the internal glandular system leads to a modification in the internal secretion of the other glands. Alterations in the various glands have been demonstrated at autopsy. Thus the occurrence of sexual disturbances, impotence and amenorrhea, glycosuria, pigmentation, hyper or hypotrichosis, asthenia, vaso-motor disturbances, enlargement of the thyroid and emaciation may be significant of involvement of the generative organs, pancreas, adrenals, thyroid thymus or hypophysis.

TREATMENT.

The treatment of pituitary lesions lies chiefly in the realm of surgery. Cushing has treated some cases with the glandular extract with notable improvement especially in cases of hypopituitarism. Recently Cauvin reported a case of acromegaly due to a hypophysis neoplasm with marked visual disturbances treated with extract and the X-ray with marked improvement in vision and relief of intra-cranial pressure phenomena; but no improvement in acromegalic findings and the amenorrhea.

Indications for operative procedure differ somewhat with the surgeon.

Cushing and Hochenegg have operated in a few cases of active acromegaly with some beneficial result; but in Cushing's case improvement was only temporary.

Von-Eiselsberg does not consider simple acromegalic or dystrophia adiposo-genitalis phenomena without increased intra-cranial pressure or visual disturbances as indications for operation, nor cases in which minor visual disturbances are stationary under frequent observation of an oculist, nor cases with irreparable ocular conditions and headache absent or mild, but yielding to narcotics. Hirsch agrees with Von-Eiselsberg that acromegaly without visual disturbances is not a sufficient indication for operation; but further states that every case with disturbed vision no matter whether the growth be intra-cranial or intrasellar, operation is indicated.

Operations on the pituitary are extremely difficult and dangerous the gland being quite inaccessible, the possibility of infection great especially if the transphenoidal route is employed and brain trauma liable if the intra-cranial route is used.

There are two modes of approach to this small body, the intra-cranial route and the extra-cranial or trans-sphenoidal route. The surgical procedure varies with conditions present, indicated by symptoms, signs and X-ray findings.

The intra-cranial route is especially applicable for neoplasms which extend intra-cranially, a much better view of conditions being obtained than by the trans-sphenoidal route.

Canton and Paul suggested the middle fossa approach which was later employed by Horsley. Anterior fossa approach was first introduced by Krause who resected the frontal bone and separated the dura to the lesser wing of the sphenoid where it was incised and the hypophysis exposed. Kiliani opened the dura immediately after the frontal bone was resected. Anterior fossa approach has been further modified and put into use by McArthur: Incision is preferably made over right side from inner end of eyebrow to the outer aspect of the external angular process, cutting through all tissues to the bone, supraorbital vessels ligated without including the nerve. Following the normal furrow a perpendicular incision is made from nasal end upward 3 to 4 cm., tissues and periosteum loosened from bone and reflected up, periosteum of orbital roof also loosened, orbital contents being displaced downwards, portion of frontal prominence from frontal sinus to external angular process and one-half of the orbital roof removed, bone preserved in blood warm saline, later replaced, the remaining part of orbit to optic foramen removed, dura detached from bone covering the inferior surface of the frontal lobe, reaching the clinoid process and free edge of wing of sphenoid, the shelving off of the floor into the sella is determined and the dura between the clinoid processes selected and incised 2 to 3 cm., optic nerve and chiasma and the pituitary body exposed.

I am informed that Dr. McArthur has successfully used this method in his last four cases.

Frazier has recently attempted to modify the McArthur method, extending his incision up into the scalp and outwards again, and re-

secting a smaller portion of the frontal bone and the orbital roof.

The trans-sphenoidal route gives a better means of attack upon conditions growing into the sphenoid, but the danger of infection is great and operative field narrow.

TRANS-SPHENOIDAL OR EXTRA-CRANIAL ROUTE.

Several modes of approach are in use:

1. Infra-nasal route.
2. Supra-nasal route.
3. Oro-nasal route.
4. Endo-nasal route.

König and Hertle employed a rather complicated approach in their experimental work, first splitting the superior maxilla.

Löewe made his incision a little to one side of the median line of the nose, cutting through bone and soft parts, the sides of the nose were turned out, the septum deflected or resected, the ethmoidal cells and turbinateds removed and the sphenoidal cells opened.

Moszkowicz and Tandler devised a two-step operation: 1. Making their incision along the side of the nose, the nose then turned to one side and then proceeding to the sphenoidal cells similar to Löewe, and then turned back a flap from the forehead onto the cribriform plate to the tip of the sphenoidal cells. 2. Later the sphenoidal cells and the sella are opened. They attempt to prevent meningitis by this method. Schloffer turns the nose to the right, excises the turbinateds, nasal septum and the ethmoid cells, the inner wall of the orbit down to the optic foramen and also the inner wall of the antrum of Highmore with a portion of the nasal projection of left maxilla and then attacks the sphenoidal cells and sella. Later he has modified this, resected the anterior wall of the frontal sinuses and then proceeded. Hochenegg turned down the nose, made an osteoplastic flap of the anterior wall of the frontal sinuses, removed the septum and turbinateds and the ethmoid cells. Von Eiselsberg in his first three cases resected the anterior wall of the frontal sinuses, in the next four cases he made a bone flap of the sinus wall, and in the last nine cases he omitted the frontal sinus resection or flap and proceeded to remove the septum, turbinateds and ethmoid cells after the initial incision which he made along the left margin of the nose from the gabella and deflecting the nose to the right. The sella is opened in the median line and not too far anteriorly, thus preventing injury of the carotids and the chiasma. After removal of the neoplasm drainage is introduced, nose packed with

iodoform gauze and skin sutured. Kanavel has more recently designed and employed a different method, incision being made through the naso-labial margin of the face, U-shaped, the nose turned up and entrance made into the inferior part of the nasal cavity, the septum partially removed or deflected, middle turbinates removed, sphenoid foramina located and the interfering attachment of the perpendicular plate of the ethmoid and vomer bitten away and sphenoid cells and sella opened. The attachment of the vomer to the sphenoid is used as a guide to the median line. Mixer employs Kanavel's method. Halsted, A. E., makes the initial incision in the mucosa beneath the upper lip and then proceeds through the nose similar to Kanavel. Cushing has adopted the Halsted-Kanavel route. Hirsch has introduced the endo-nasal method, operating in a number of stages, and always under cocaine, through the nose. The middle turbinate of one side is first removed, after a few days part of the ethmoid cells are removed, baring the sphenoid cells, then the sphenoid cells are resected and at a fourth sitting the sella opened tumor exposed and removed. More recently he has performed this operation at one sitting, first doing a submucous resection of the septum and vomer. Chiari's method involves an incision from inner edge of orbit along the outer margin of the nasal bone to the maxillary process, the eyeball is drawn down and outward, posterior part of nasal septum and the sphenoid cells resected and sella opened. Biehl has proposed another type of operation, exposing the base of the skull by opening the pharynx above the hyoid bone, the soft palate drawn forward, inferior part of sphenoid sinus removed and sellar floor opened and pituitary body exposed.

Halsted and Cushing have performed a preliminary tracheotomy in some cases where difficulty was encountered in administering the anesthetic.

(Rectal or intravenous anesthesia might be employed in pituitary surgery).

Von-Eiselsberg states that the entire hypophysis can hardly ever be completely removed.

Cushing's cases as a routine procedure received up to 60 grains of urotropin the day previous to the operation and for several days following.

Combined partial removal of the neoplasm and radio-therapy have shown some improvement in the cases in which Cushing has employed the same.

Cushing performs a sellar decompression

operation in cases with persistent headaches and to encourage the extension of a glandular struma into the sphenoid cells rather than into the cranial cavity; partial removal of a hyperplastic gland in the active stage of hyperpituitarism; partial removal of the tumor for relief of neighborhood symptoms; subtemporal decompression for relief of intracranial pressure symptoms when an intra-cranial extension has occurred; subtemporal or sellar decompression or both for more favorable application of X-rays; and suggests the exposure of the brain or of some other organ in marked hypopituitarism, to implant a viable gland.

RESULTS OF OPERATIONS.

First Von-Eiselsberg has operated on sixteen cases, three males and thirteen females ranging from 18 to 52 years of age, eight cases were of the Frohlich type, six acromegaly and two a combination of both. He lost four cases, death being caused by meningitis in all cases. Beneficial results (?).

Hirsch has operated on twenty-six cases with three deaths, a mortality of 11.5 per cent. Kanavel's method has been employed in thirty-two cases with a mortality of 37 per cent. Schloffer's in forty-five cases with mortality of 37.8 per cent. Cushing has used the trans-sphenoidal route twenty-nine times followed by four deaths, a mortality of 12.7 per cent.

Cushing states that the results of surgical intervention in most cases of hypophysis disease are only relief of neighborhood symptoms and palliation of increased intra-cranial pressure phenomena.

ORGANIC AND FUNCTIONAL ACHYLIA GASTRICA.

JACOB E. MEENGs, M.D.

GRAND RAPIDS, MICH.

This interesting condition of the stomach was first described by Max Einhorn as a distinct clinical entity in contradistinction to other authors who attributed the achylia as a result of a gastritis or other organic disorder.

Years ago organic stomach and bowel trouble were thought to comprise by far the greatest percentage of cases. At present we know that functional disorders are by far more frequent than the purely organic.

Disqué goes so far as to say that three-fourths of all the cases are either functional, constitutional or of purely nervous origin.

Our modern methods of diagnosis such as test-meals, stool examination, and X-ray have

revolutionized our ideas of achylia gastrica as well as other diseases.

It is important to distinguish between an organic and a functional achylia, because in the former we govern our dietetic regimen according to the condition of the mucous membrane of the stomach, while in the latter case, a regular "Mastkur," increasing the amount of nourishment as much as patient can assimilate and a general building up of body and nervous system are required.

In organic achylia there is more or less atrophy of the mucous membrane. It is often caused by a chronic gastritis or accompanies carcinoma of the stomach.

A gastritis anacida often follows a hyperacid gastritis which is often found in alcoholics and persons guilty of gross dietetic errors—using much spices, tobacco or those who have bad teeth.

Following a gastritis anacida an atrophy of the mucous membrane can cause an achylia in which the function of mucous membrane can be permanently lost and from which none or very little mucus, HCl Lab or pepsin is produced. In this condition food leaving the stomach hardly altered chemically and in a lumpy mass will irritate the mucous membrane of the intestines causing a catarrhal condition with diarrhea. The intestinal mucosa can also atrophy. In this condition according to Fenwick, Albu and others, the toxins of the intestines can cause changes in the blood leading to a pernicious anemia.

Organic achylia also occurs in old age when arteriosclerosis produces atrophy of mucous membrane; it may accompany chronic nephritis, chronic liver, heart and lung troubles, and especially tuberculosis and syphilis.

Many authorities do not think that an achylia is always caused by chronic gastritis. From present statistics it appears that a functional is much more frequent than an organic achylia.

Einhorn Albu, Wegele and others, lay stress upon the neurotic origin, while Martius contends that a weakness or lack of tone of mucous membrane of stomach (*organschwäche*) is principal cause (*achylia aplastica*, Albu).

The cause is often a neurosis, often a functional weakness of the secreting glands of the stomach.

Very often the real cause is an anemia, a change in composition of the blood. In functional achylia we have a functional change in secreting glands of mucous membrane. This is entirely different from an atrophy of secreting

glands in which there is a pathological anatomical change.

If we deny the existence of a functional achylia we might as well ignore an orthostatic albuminuria, yet there is a vast difference between an orthostatic albuminuria and a real nephritis.

The functional achylia like neurasthenia can be inherited or acquired.

In the former the individual inherits a physique below par, a general weakness of the organs, or a neurotic condition.

The functional achylia can also be acquired in connection with changes in the blood or nervous system, by general lack of tone, also in anemia, tuberculosis, or neurasthenia.

In the diagnosis of achylia the test meal is of first importance. There should be none or very little mucus present, there should be entire absence or very low percentage of HCl, pepsin and lab-ferment. The combined acid according to A. Schmidt should be below 20. There may be also a deficit of HCl. There is increased motility of the stomach.

The stomach contents should not be thin or finely divided, for then we are not dealing with an achylia. On the contrary it is very lumpy, scarcely digested and often in large masses.

Often there is no tenderness or pain at all. Some cases present all possible variations in stomach and bowel pains, tenderness and distention and often pain in the stomach region, eructations and vomiting. The patient may suffer a good deal from diarrhea. It is also important to examine the feces both macroscopically and microscopically. In most cases connective tissue fibres are found. When the pancreas and intestinal function are affected muscle fibres scarcely digested and undigested nuclei are found.

The stool in the diarrhea of achylia is often voluminous and the nitrogen loss is often three times as great as in normal cases.

The differential diagnosis between chronic gastritis and achylia is often difficult.

In gastritis there is larger amount of mucus and thinner contents. The HCl and ferments are more deficient in gastritis than achylia. Also the motility in the former is not so great as in the latter and very often greatly reduced.

In the stomach contents of gastritis are found leucocytes, epithelial cells and beaker cells partly filled with mucus. These findings are found in a very small amount in organic achylia.

The differential diagnosis between achylia and carcinoma also presents difficulties. In carcinoma there is often a palpable tumor, rapid loss of strength, positive Salomon reaction, lactic acid and occult blood in stool.

In nervous dyspepsia the amount of HCl varies and constantly changes. It may be entirely absent and then again greatly increased.

In the differential diagnosis between organic and functional achylia the etiology is quite important. If patient hasn't any teeth or bad ones, or is guilty of gross dietetic errors—uses tobacco or alcohol—one must think of an organic achylia which has developed from a gastritis.

Inasmuch as an atrophy of gastric mucosa very often causes atrophy of intestinal mucosa, there follows a diarrhea of gastric origin which does not yield to dietetic treatment. In these cases if the mucosa of the intestine is found damaged in the stool examination we have an organic achylia. In diagnosis of functional achylia the history of patient is quite essential. It is important to find out if patient has been always nervous, if there is general lack of tone in the body.

In individuals with a small and long thorax, with sharp pointed angulus costalis, floating 10th rib, with dropped heart, enteroptosis, congenital defects, diastasis of recti, in hernias of youthful subjects, one should think of an inherited functional weakness of gastric mucosa.

The splashing sound in the stomach denoting atony speaks more for functional achylia.

Boas states that this is seldom found in gastritis. Enteroptosis is often found in functional achylia.

Neurasthenic and hysterical stigmata, evidence of chlorosis and anemia, marked exhaustion, neurotic pains in the gastric region, pain and distention after nervous excitement, insomnia, headaches, change in voice tones, all these speak more for functional achylia.

When stomach symptoms and diarrhea yield to dietetic regimen and general building up of health, we are dealing with functional achylia.

The prognosis is far better in functional than organic achylia. The prognosis of the acquired functional achylia like the acquired neurasthenia is far better than that of inherited constitutional origin.

The prognosis in a real atrophy of the mucous membrane is bad. The atrophied mucosa cannot be restored. This often disturbs the motor function of the stomach and causes atrophy of

intestinal mucosa and then the prognosis is indeed bad.

Space will not permit discussing the therapy of achylia.

In conclusion I will outline the main facts. There is an organic and functional achylia; the latter occurs far more frequently than the former.

The differential diagnosis cannot always be established with certainty.

The etiology, the history of the patient, the symptom complex and the laboratory findings and X-ray often diagnose the case.

Neurotic stigmata, asthenia, or a general enteroptosis point more to functional achylia.

If anatomical changes in mucosa of stomach and bowel can be established by stomach analysis and that of the stool, we have an organic achylia.

The prognosis of functional achylia is better than that of organic, that of the acquired functional achylia, better than the inherited.

A DISCUSSION OF GOITERS IN 583 REGISTRANTS.

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LAKE LINDEN, MICH.

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1. ENDEMICITY OF GOITER.

In studying endemic goiter, the records from Switzerland where it appears in greatest numbers than in any other country, furnish us with much material. Kocher claims that 90 per cent. of all school children in the city of Bern are affected. The percentage varies down to 20 to 30 per cent. in Austria, Northern Italy and Germany. I believe that Michigan with its hilly country spotted with lakes, especially the Upper Peninsula, has above 50 per cent., being a close second to Switzerland. In a later communication on this subject I will add to this proof.

A most striking fact, observed by Bircher of the University of Basil at the Wells of Rapperswyl, Switzerland, was that 70 per cent. of all children born there developed goiter during the time of a certain water supply but, since this latter was changed, goiter has nearly disappeared amongst the children in that community. He also classified 13,090 cases which show males 9.8 per cent. and females 20 per cent.

Nearly all sections of the globe have some goiter. (Osler).

In 1900, France had 400,000 goiters. In

[illegible]

CHART NO. I.

583 Registrants examined from the registrations of June 5th, August 24th, and September 12th, 1918, of Division No. 2. Houghton Co., Michigan.

Switzerland according to Ewald, 12,277 recruits were disqualified out of a number of 300,000 annually, or 4 per cent. (Osler). In these same communications we have the study of the region about the Great Lakes in Canada,

M. P. Kemp studied 425 women of the Newberry Asylum previous to 1917 and noted that 28 per cent. had goiters, 5.8 per cent. developed them since coming here, and for a period of six years 21 per cent. of the admissions had

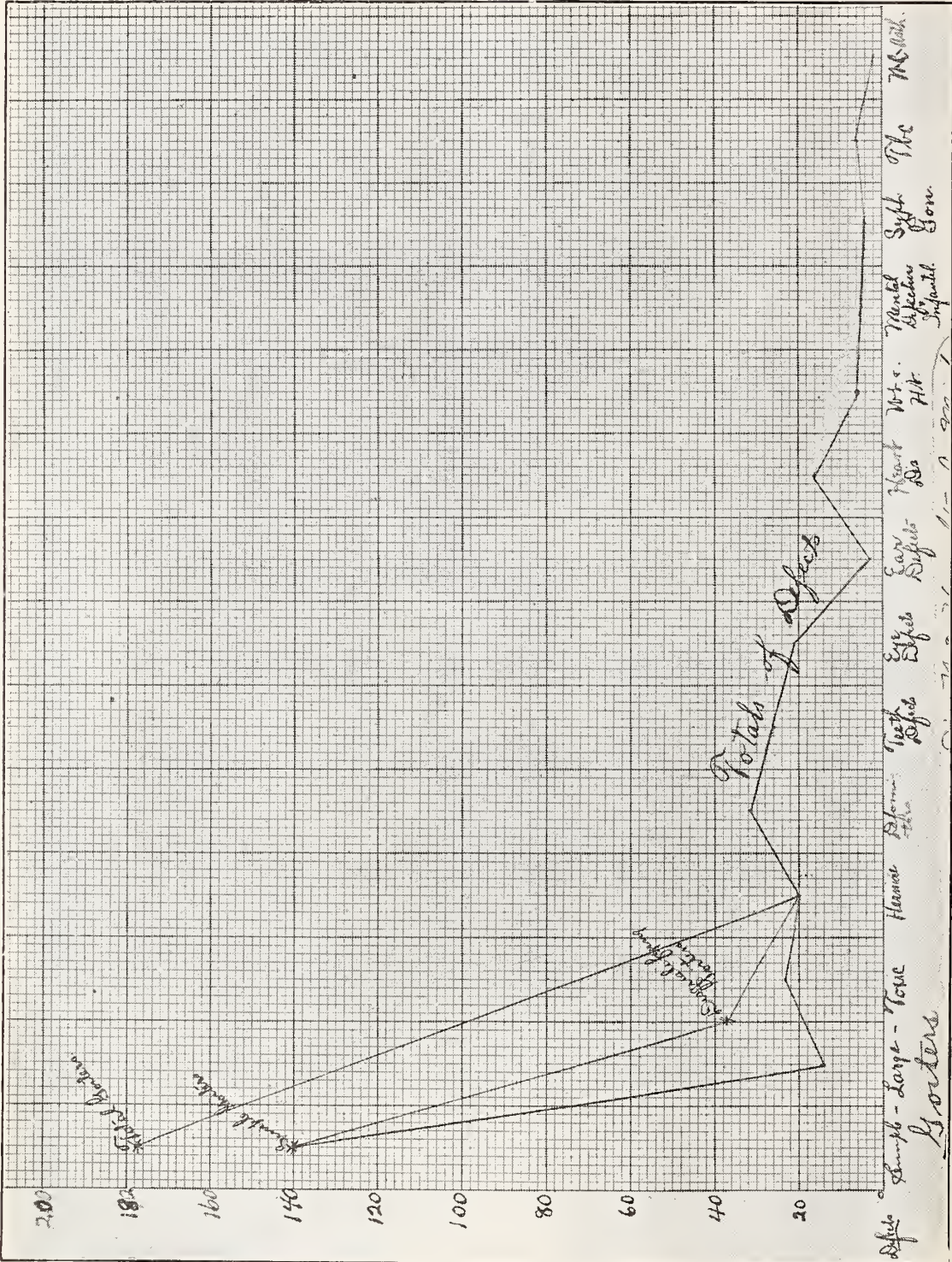


CHART NO. II.
583 Registrants examined in Division No. 2, Houghton Co., Michigan.

and Adami found but two to three per one thousand well marked cases, and 10 per cent. in young women. I believe this percentage must be low if there are any such numbers as we have here.

them.
According to C. S. Miller's statistic, goiter is increasing in the United States. This is based on Hadilicka's statement from the United States National Museum.

2. DISCUSSION OF PHYSIOLOGY AND PATHOLOGY

In spite of much work, and study on the endocrine glands of the body in their occurrence in individuals and in communities where they are prevalent has led to conflicting hypotheses as to their function and their control of metabolism of the body. More thorough and conclusive evidence must be obtained before we can justify positive statements as to their real role in development, selection of function and causation of pathologic changes.

E. C. Kendall's isolation in 1915 of the alpha-iodin crystals and its use in cretinism and myxaedema is a good step in advance. The difficulty in the separation of this substance

thymus, hypophysis, adrenals, ovarics—will be a matter for the future study to decide.

The knowledge attained by the study of thyroidectomized animals, this effect on metabolism, (Means and Aub) and the correlated symptoms and signs in the human subject before and after lobectomy, or the various types of resections add many stepping stones to ultimate solving of the problem of the physiology and pathology of this gland.

The observation in the female who presents more likelihood of an enlarged or changed thyroid on account of her varied physiological career, shows enlarged thyroid during puberty, menstruation, menopause, and pregnancy, demonstrating the need for thyroid activity.

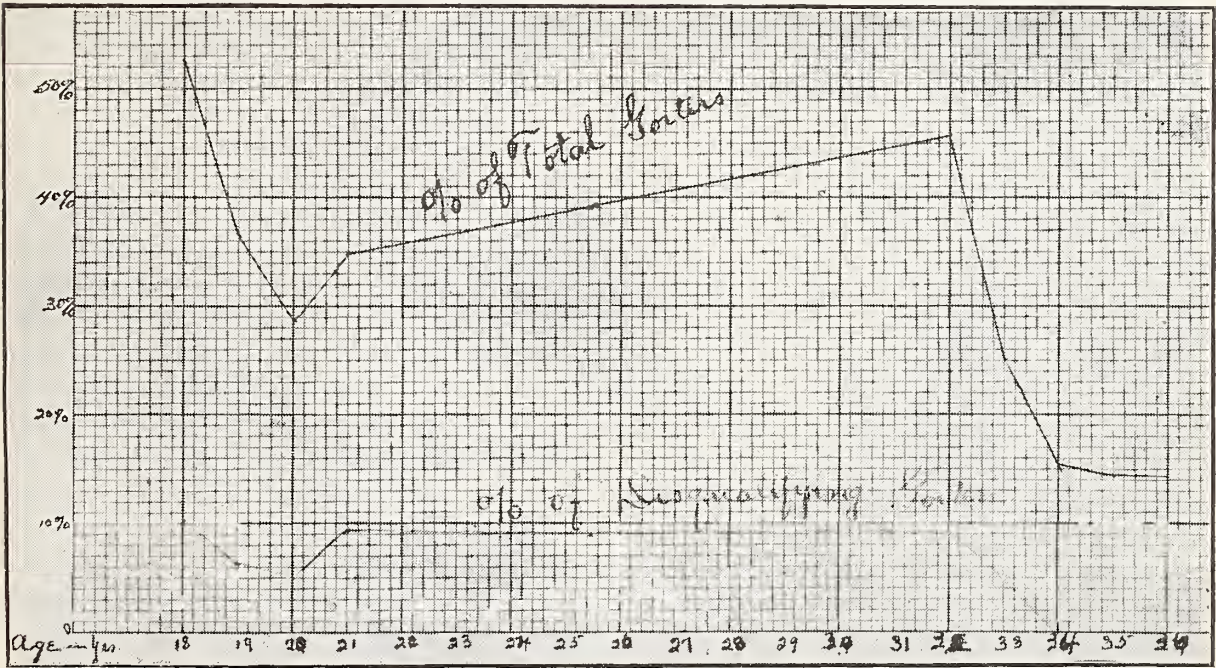


CHART NO. III.

From Tabulation of 583 Registrants examined in Division No. 2, Houghton Co., Michigan.

makes progression along this line very slow. An interesting point in the use of the substance in normal individuals bears a relation to thyrotoxicosis of hyperthyroidism, but the peculiar chronic toxicosis cannot be reproduced artificially in the normal individual. The body has ameliorating substances to offset this intoxication produced artificially, manifesting a tolerance. Therefore, not only the excessive secretion of the thyroid causes the symptoms, but also the various substances that it excites in other organs of internal secretion, that give the multiple pathology of a so-called case of hyperthyroidism or Grave's disease. To what extent the thyroid activity may be influenced by other organs in a pathological state as the

It was said by Dr. Charles Mayo that eclampsia resulted in pregnant women in whom there was an hypothyroidism. This is an interesting statement if not altogether accurate. The removal of an ovary may excite an attack of hyperthyroidism. All this demonstrates the need of the thyroid in development and metabolism and the interdependence of the various glands of internal secretion.

3. STUDY AND DISCUSSION OF 583 REGISTRANTS

Any grouping of large numbers of facts and records will add to the sources of supply that eventually bear fruit of ultimate knowledge. Therefore, I wish to present tonight a study of the thyroid occurrences in 583 Registrants of Division No. 2 of Houghton County, Mich-

igan. My connection dates from Feb. 23, 1918, and therefore I could only study those that came under my control from the date of my commission as examining physician to the Board. I studied and tabulated the cases that appeared at the registration of June 5th, Aug. 24th, and Sept. 12th, 1918, that were examined by the associated physicians and myself. Most of the registrants I personally saw. Their ages ranged from 18 to 21 and from 32 to 36 years inclusive.

The definition of goiter that I used was "any palpable enlargement of the thyroid gland." The pathology that gives this enlargement, of

or hyperthyroidism is certainly one of the most feared conditions of disease on account of its great danger to the vital organs—as tachycardia with miocardial degeneration, mental and nervous irritability, and exhaustion, exophthalmos, weakness, loss in weight, and the various degenerations of the liver, kidney, and nervous system. The example of a patient at the height of an attack of the Grave's disease is sufficiently alarming to justify more study and care on the part of the physician and surgeon.

Even the so-called simple goiters and adenomatous goiters have the potentiality of thy-

	Male Population between 18-36 yrs (incl)	Total Goiters in Males between 18-36 yrs (incl)	Total Population	Total Goiters	Total Goiters per 1000
Selected Areas Registration Div. No. 2 Houghton Co.	1773	537	31735	9613	1947
Houghton County	4934	1495	88098	26694	5550
Upper Peninsula Michigan	8235	5525	325628	98665	20515

CHART NO. IV.

Total Goiters and Large and Toxic (Disqual.) Goiters estimated from the percentages found in the 583 Registrants examined in Division No. 2, Houghton Co., Michigan.

course, is the basic cause for disease of this gland, and, therefore, we can classify them into four clinical groups. (Judd).

1. Simple colloid.
2. Adenomatous.
3. Toxic goiters, which are found hyperplastic.
4. Malignant.

The danger to the individual depends upon the type of goiter, its size, and position. As we know large, colloid and adenomatous masses press upon the adjacent organs of the neck, trachea, oesophagus, recurrent laryngeal nerve, and large vessels of the neck, causing symptoms of dyspnoea, dysphagia, hoarseness (or aphonia) and cyanosis respectively. Thyrotoxicosis

rotoxicosis. From the large amount of material at the Mayo clinic, Plummer drew the conclusion that 20 per cent. of all simple goiters get a goiter heart in fourteen and one-half years. Allan Graham, at the Western Reserve University, discovered that dessicated adenomata (adult and foetal) could produce the same changes as normal thyroid secretions, which gives to the simple goiter the potentiality of toxic goiter.

In my own observation I believe that the high tension produced by the war, amongst young men and also their worrying and nerve-strained relatives, whipped up many quiescent

goiters, and also excited the potential simple goiter to activity causing many cases of acute hyperthyroidism with its accompanying symptoms. I have examined and treated several of this type during the last year.

S. P. Beebe, in an article in the *Medical Record* of February, 1918, corroborates my own observation in this regard. As I have found in a limited number of cases Beebe has described in many camps, that many cases of so-called soldier's heart and so-called "psycopathies" were true cases of hyperthyroidism.

The large numbers of goiters strike one as a very important factor in the study of the man power efficiency, and the possible ultimate effect on posterity. As we know the goiter question rises in Switzerland to a national problem, it is incumbent on us not to disregard the issue when I will show you a percentage in thyroid defects greater in itself than any other defect. We have more goiters in males tabulated than all other defects added together. Quoting from a non-official communication to Major Peterson in August 17, 1918, I stated: "Of the 1918 class of June 5th (all of which were 21 years of age) who were born in this district, practically one-third had an enlarged thyroid gland of some degree—some definitely having large cystic, adenomatous, colloid or toxic goiters. Some of these boys have a definite decrease in efficiency from every standpoint—unable to do average mental or physical labor, having decreased mentality, or suffering from dyspnoea or a definite toxic state with the usual symptoms of hyperthyroidism."

More men were disqualified for military service according to the regulations from large and toxic goiters, than from any other defect. For instance, on referring to chart No. 1, you will see that amongst the 583 registrants examined we have 37 goiters (large and toxic), and 20 hernias, 31 total deformities of the bones and joints and 16 heart diseases. (One interesting feature shows the very low percentage of venereal diseases. This is due to the fact that the young men prepared themselves for examination by prevention and treatment, demonstrating the value of propaganda).

Of the total number of disqualifying defects, goiters stood 20.9 per cent. or more than one-fifth, total deformities next, at 17.5 per cent., hernia, 11.3 per cent., and heart diseases 9 per cent.

The percentage of toxic goiters will increase in my mind to 8 per cent. to 10 per cent. if we added to those found the men who developed

toxic states later, and, also, more carefully examined heart diseases.

The deleterious effect of goiters was discovered in a small number of families of Morons whose parent or parents had very marked deforming growths of the thyroid.

It appeared in observation of my practice coupled with my tabulated cases that persons were in danger of thyroid enlargement and its associated symptoms when born in this "goiter belt." Also, persons or families who had opportunity for travel and lived in other sections of the country for any length of time each year, were less prone to thyroid difficulties.

On examination of 583 registrants, I found that 177 of that number or 30 per cent. showed a demonstrable enlargement of the thyroid, 140, or 24 per cent. of the total number examined were simple goiters, 23, or 3.9 per cent. were toxic goiters and 14 or 2.4 per cent. were large goiters of the adenomatous, colloid or cystic types of a disqualifying nature. You can readily see that these figures, by comparing the charts Nos. I, II and III, demonstrate without any doubt the importance of the goiters amongst men of our section.

In investigating the places of birth I found that of 155 men of 21 years of age, all but three were born in the section of the goiter belt. Therefore, the presence of a goiter in 95 per cent. of cases of young men marked the place of birth.

The percentage varied with ages on account of the incidence of goiter and also on the numbers examined, but the average would be a just estimate of the actual percentage.

The decreasing percentage as the registrant grew older is due to the fact that a certain proportion of older members of the community may have been born elsewhere, and that they had traveled in non-goiterous districts. Both factors make up for a decreased hypertrophy and hyperplasia of the thyroid, and argues in favor of the popular belief in some local influence from the water supply exciting the growth.

I believe that 30.3 per cent. is a true proportion of goiters in males judging from the males examined, and that, therefore, chart No. IV, gives us percentages very close to accuracy to the number of goiters in the Upper Peninsula of Michigan and Houghton County, Michigan. Furthermore, the female, as I have said before, is more prone to the thyroid enlargement than the male. It is a known fact that

there are nearly two females to one male with goiters in the section.

I used the word disqualifying to mean cases with large and toxic goiters according to the definition in the Selective Service Regulations.

The figures when developed would be still more startling. Therefore, in Registration Division No. 2 of our County, there are 9,615 goiters with 1,999 of a disqualifying character; in Houghton County 26,694 goiters of which 5,550 are disqualifying types; and in the Upper Peninsula of Michigan there are 98,665 goiters with large and toxic types numbering 20,515.

The economic and social importance of these figures cannot be denied.

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VERTEBRAL DISEASE AS A CAUSE OF REFERRED PAIN.*

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In the examination of patients often the physician is unable to explain adequately the cause of pain. This symptom of pain is the one most readily recognized by the patient and the one most likely to bring him to the doctor. Examination of the spine will often reveal vertebral diseases as a cause of pain that cannot be accounted for otherwise. Sensory disturbances in diseases of the spine have not received the attention they deserve. Mistakes have been made in diagnosing visceral disease as a cause of the sensory disturbance when the real cause has been a pathological process in the vertebrae that has caused an irritation of the nerve roots.

Rogers and Foley in reporting an analyses of 75 cases of tuberculosis of the spine report that four cases had been considered gastrointestinal, one had been operated for gall-stones, one for appendicitis, one for perinephritic abscess, one had a nephropexy. Blaine and others have called attention to the fact that renal and

ureteral stone symptoms are often due to a spondylitis. It is apparent that a routine examination of the spine is important in diagnosing obscure lesions especially where pain is an important symptom.

In this discussion I desire to refer briefly to four classes of vertebral lesions, to report a few cases and to exhibit some slides showing these conditions. The four classes of vertebral disease are Pott's disease, malignancy, spondylitis deformans and spondylolisthesis. Tuberculosis of the spine is a frequent and well understood condition. In children it is of such common occurrence that the clinician is on the watch for this condition and seldom overlooks it. In adults the condition is also frequently present. The pathological process is an osteomyelitis usually of the body of the vertebra. By a destructive process the bone is broken down and the vertebra collapses causing the well known deformity. Pain is often an early symptom. The location of the pain depends upon the point in the cord at which the vertebral disease occurs. The pain may be in the chest or abdomen. Abdominal pain may suggest disease of the stomach, appendix or kidneys.

Carcinoma of the spine is not a rare disease. It is a metastatic process. The most common sites of the primary growth are the female breast and the uterus. The disease involves the spongy portion of the body of the vertebra. Invasion of the canal takes place rarely. Root pains are of extremely frequent occurrence and are early and troublesome symptoms. When the disease has progressed sufficiently the vertebra collapses as in Pott's disease and deformity and symptoms of cord compression occur. One vertebra alone may be involved, but as a rule the growth invades two or more adjacent vertebra. Root pains following an operation for cancer should always suggest a secondary invasion of the spine.

Spondylitis deformans is of much more frequent occurrence than is commonly appreciated. In this discussion no attempt will be made to classify this process as to etiology or types of rigidity, but all forms of spinal arthritis with bony changes will be grouped together. Prof. Elliot Smith has shown that this disease was very common among the prehistoric Nubian people. Its extreme prevalence is shown by the fact that in one prehistoric cemetery explored every adult body presented more or less extensive signs of its effects. The following brief description of the pathological changes

*Read before the Kalamazoo Academy of Medicine.

present is abstracted from Llewellyn Jones' classical description.

"The intervertebral discs undergo absorption to a greater or less extent and in some cases are entirely replaced by bone. In both the intervertebral and costovertebral articulations not only may the articular surfaces be firmly welded together, but the capsules also become ossified. Similarly extensive ossification of the spinal ligaments may also take place."

There are many symptoms of this disease that are due to irritation of the nerve roots. Oppenheim notes the occurrence of brachial, intercostal and crural neuralgia. Pains in the shoulder and arm frequently occur. Many cases of so-called sciatica are due to this process. Intercostal neuralgia and tight gripping pains across the lower thorax are often present. Girdle pains across the abdomen may be persistent and severe. Roentgenologists have often noted the frequency with which patients sent in for an X-ray demonstration of renal calculi were found to have not calculi but arthritic changes in the lumbar spine.

The fourth condition to which I wish briefly to refer is lumbo-sacral dislocation, the so-called spondylolisthesis. This condition has recently been called to the attention of the profession by Darling of New York. It is a sliding forward of the fifth lumbar vertebra until it rests upon the anterior surface of the sacrum. If only one side is dislocated there is a twisting with a marked compression of the cauda and a resulting paralysis. Such cases are readily diagnosed by the severity of the symptoms resulting from the compression of the cord. In cases where both sides of the vertebra are dislocated the articular processes rest upon the anterior surface of the sacrum symmetrically and considerable space is left for the cauda. The resulting symptoms may be very mild and the condition may go unrecognized for a long time. Pain in the limbs may be a troublesome symptom. This often may be diagnosed as sciatica, neuralgia and rheumatism.

With this brief reference to these types of spinal disease I wish to report a few cases. I have purposely left out of this discussion any reference to purely traumatic lesions of the vertebrae and other conditions which may be more obvious from a diagnostic standpoint. In conclusion I wish again to call attention to the fact that vertebral disease often may be the cause of pain in various parts of the body and should be more carefully considered in cases where the diagnosis is not evident.

CASE I. Female, age 33. Chief complaints—left lumbar pain, abdominal pain. Family history negative. Has always been well until a little over a year ago. At that time had a serious illness. She had a terrible beating and pain in her back low down. At this time had a great deal of trouble with the bowels—almost an obstruction. Was in bed five weeks and had some fever. Gradually improved and was perfectly well until about six months ago. Now has pain in her back and pain and soreness across the abdomen. Of late has noticed a fullness in the left side of the abdomen. Physical examination: Is thirteen pounds below her normal weight, looks well and has a good color. In the left lower quadrant of the abdomen is a mass that is boggy. Dullness over this mass, but not much tenderness. The spines of the lower thoracic vertebra are prominent and there is some discoloration of the skin over them. The blood, urine, and stomach contents are normal. X-ray examination was negative except for a well marked evidence of tuberculosis of the last dorsal and first lumbar vertebrae. Diagnosis: Pott's disease with a psoas abscess.

CASE II. Female, age 56. Housewife. Chief complaint—pain in back and left groin. Has pain in both feet. Six months ago had attack of lumbago. Has had a weakness in back since. A few weeks later a kyphosis was noted by her physician. Two years ago had a radical breast amputation for cancer. There has been no local recurrence. Physical examination: Some deformity of lower thoracic spine. Moderate enlargement of thyroid. Blood-pressure 170/95. Patellar reflexes exaggerated. Blood shows moderate secondary anemia. Urine normal. X-ray shows a marked destruction and compression of the first lumbar vertebra. Diagnosis: Metastatic carcinoma of the first lumbar vertebra.

CASE III. Male, age 40. Occupation, varnish rubber. Chief complaint—thoracic pain. This pain comes on in the evening after a days work. Comes on as a rule when he sits down. Has no cough or dyspnoea. Feels good except for pain through the chest. He was operated three and one-half years ago for appendicitis. Physical examination shows a mitral insufficiency and a mouth with extensive pyorrhoea. Blood-pressure 115/72. The blood showed a moderate secondary anemia and a negative Wassermann. The urine is normal. X-ray examination showed no evidence of thoracic disease except a very moderate cardiac hyper-

trophy. X-ray examination did show well marked spondylitis deformans of the thoracic spine as evidenced by lipping and in one case an actual bridging between the vertebrae. Diagnosis: Spondylitis deformans.

CASE IV. Male, age 40. Occupation—factory foreman. Chief complaint—pain below left shoulder blade. This began about three months ago. The pain is increased by deep breathing, sneezing and coughing. His back is stiff when he wakes up in the morning. Has had repeated attacks of tonsillitis and two Neisserian infections. Had tonsils removed on account of rheumatic symptoms about one year ago. Physical examination: Systolic murmur at apex. Slight evidence of pyorrhoea about two or three teeth. Blood pressure 110/78. The blood and urine are negative. Wassermann on blood and spinal fluid both negative. X-ray examination negative except for a marked lipping in the thoracic spine. Diagnosis: Spondylitis deformans.

CASE V. Female, age 57. Restaurant keeper. Chief complaint—pain in left upper quadrant of abdomen. The pain is constant and is progressively worse. Has no relation to the ingestion of food. The pain sometimes radiates into the left groin and hip. Physical examination negative except for a considerable degree of pyorrhoea. The blood shows a moderate secondary anemia and a negative Wassermann. The urine and stomach contents are normal. X-ray examination negative except for a marked lipping and bridging between the thoracic vertebrae. Diagnosis: Spondylitis deformans.

CASE VI. Male, age 66. Farmer. Referred on account of symptoms of right renal calculus. History of passing gravel. Physical examination negative. Urine normal. X-ray showed a marked spondylitis deformans of the lumbar spine with no evidence of renal calculus.

CASE VII. Male, age 36, occupation, engraver. Chief complaint—disturbance of motor control of legs and feet. Fifteen years ago had trouble with walking, some pain and numbness in limbs. This was relieved when he was off his feet. Was off his feet for a year and was very much improved. About nine months ago began to have some pain in the back. Has some weakness in his feet and legs, especially the left. Has noticed that he cannot flex toes on left foot as perfectly as on right. Has had some pain in the legs but none at present. Physical examination: Slight flattening of left chest. Left scapula much more prominent than the right. Right patellar reflex exag-

gerated. Some impairment of sensation in right foot. No ankle clonus. Marked scoliosis of dorsal spine. A lordosis in lumbar region. Stands with left side of pelvis tilted upward. The blood Wassermann is negative. The urine contained a little pus. X-ray plates of the lumbar spine showed a complete forward dislocation of the fifth lumbar vertebrae. In the thoracic region the vertebrae were rotated and showed a marked scoliosis. Diagnosis: Spondylolisthesis.

These seven cases serve to illustrate the types of cases to which I have referred. Case I, a case of Pott's disease, was referred particularly on account of abdominal pain and a mass in the left abdomen. Case II, malignant disease of the spine; had pain in the groin and feet. Cases III and IV had thoracic pain as the most striking symptom. Case V complained of pain in the left abdomen. Case VI illustrates the finding of a spondylitis deformans in cases referred for urinary calculus. Case VII illustrates the rather interesting condition of complete lumbosacral dislocation with only mild disturbance of the motor functions.

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DISCUSSIONS.

DR. A. W. CRANE: This subject has been monopolized by the osteopath. Physicians have been reluctant to speak of diseases of the spine for fear of having the appearance of quackery. The subject has been almost untouched, but it is surprising how frequently referred pain will mislead in diagnosis.

Dr. C. E. Boys reported a case which illustrated the topic of the paper in a patient who had the clinical picture of disease in the left kidney but which proved later to be an early Pott's disease, so early in fact, that the X-ray showed no destruction of the vertebrae. The diagnosis of Pott's was made from the appearance of a bunch in the region of the left kidney, from which was aspirated pus which caused general tuberculosis when injected into a guinea pig.

Dr. Penoyer spoke of the danger of manipulation in these cases and that we should fight it. Told of a case with pain in testicle which went to an osteopath. Pain was severe and only controlled by morphine. Was above the lower dorsal region and did not diminish, as he got up had kyphosis. Went to Ann Arbor and was diagnosed arthritis deformans. Sinuses developed and there were several

tablespoonsful of pus which came out after manipulation by an osteopath. Question came up as to injury by manipulation breaking down the abscess wall.

DR. ELLSWORTH: One of the cases demonstrated was one of hers. Was previously treated by an osteopath and made worse by treatment. Pain in stomach and epigastrium was suggestive of malignancy. Treatment suggested by Drs. Crane and Jackson was to treat the anemia. Patient improved and later could continue her usual duties.

DR. JACKSON: The treatment of these cases of spondylitis deformans is very discouraging. Dr. Ellsworth's case was unusual. Most of them do not get better after deposits have taken place. Can see nothing but injury by osteopathic manipulation. In Dr. Penoyer's case it may have been made worse by vigorous manipulation which broke up the bony formation. In treatment we should clear up focal infection. This may arrest some cases. Treatment is hygienic. Treatment of Pott's disease offers much more encouragement than other forms described.

TREATMENT OF EMPYEMA.*

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The great increase in the number of patients with empyema, which followed the streptococcus epidemic of 1917-1918, and after the influenzal pneumonia of the autumn and winter of 1918, has greatly brought to the attention of the medical attendant, the best and quickest method of handling this disease, so that the patient will get rid of this pus pocket at the earliest time.

Not only is this essential for the life and immediate health of the patient, but for his future welfare as cases with diseased sinuses or with thickened exudates and small pus pockets are especially prone to myocardial changes, also amyloid degeneration of the kidneys and liver and chronic nephritis.

Therefore, in order that the patient has the full benefit of the best surgical treatment it is of the utmost importance that the diagnosis be made as early as possible.

Clinical history is very important, while following pneumonia, the temperature usually falls to normal and after a few days, rises usually accompanied by profuse sweating.

Diagnosis: Physical signs. Are those of pleurisy with effusion, immobility of some degree of the affected side.

Obliteration of intercostal spaces.

Shifting of apex beat, depending upon the amount of fluid present.

Diminished or absent tactile fremitus.

Diminished or absent vocal fremitus, although in children vocal fremitus may be retained in the presence of considerable effusions. Dullness or flatness on percussion.

Lying on affected side, causes cough and impaired respiration, upon change of position, especially upon lying on normal side. Blood counts are of much value in diagnosis, differentiating from simple effusion.

X-Ray is of great value in diagnosis, and should be used as routine when possible. It is especially valuable in differential diagnosis between sacculated empyema and abscess of the lung, and is more valuable to show the extent of empyema than any other diagnostic aid.

The aspirating needle should always be used for a positive diagnosis and if pus is obtained a smear and culture should be made as the treatment of sterile and non-sterile pus collection would not be the same.

The aspirating needle is not without danger as a number of deaths have been reported following this procedure. When the physical and other signs warrant it, the point of choice should be either in the sixth intercostal space in mid axillary line or at the outer angle of the scapula in the eighth space. The arm of the patient should be brought forward with the hand on the opposite shoulder to widen the space between the ribs. The needle should always be thrust in close to the upper margin of the rib to avoid puncturing the intercostal artery.

Oftentimes the pus is not obtained on account of small size of the needle which will not allow of the escape of thick pus and because the needle is not thrust in far enough.

When the condition of the patient is not good, best evidenced by the general condition, especially pulse rate, great relief may be obtained, by the aspiration of a few ounces of pus. It is of the utmost importance that the pus should be evacuated slowly and in many cases the patients have recovered by repeated aspiration followed later by rib resection, which would have ended fatally if rib resection had been performed at first. A local anesthetic is sufficient for this procedure.

In some cases whose condition is such that only the slightest operative procedure can be performed, we have found it very satisfactory to use a small trocar, and after withdrawing the trocar, insert a small catheter. The catheter should always be pinned with a safety pin

*Read before the Wayne County Medical Society, January 27, 1919.

to avoid it being drawn into the pleural cavity. After a few days drainage from catheter, which may be clamped at will depending upon the condition of the patient, these desperately sick patients, improve, so that a rib may be resected with safety, when such is the plan. Local or gas-oxygen is the best anesthetic for operations of all cases of empyema.

A majority of the cases of ordinary type of empyema get well, provided that free drainage is obtained, at the lowest possible point of the abscess cavity.

All such drainage should be made so that it will be best when the patient is in the recumbent position.

In children recovery will follow proper drainage by puncture and drainage between the ribs without the rib resection.

After rib resection it is best to explore the cavity with the finger when possible as in some cases the exudate found may form pockets and the reason convalescence is delayed that these septa have not been broken up.

It has not been thought necessary to irrigate these cavities at the time of operation or subsequently in ordinary cases.

Drainage Material: Rubber tubing has appeared to be the best material for drainage, this should be of fairly soft rubber, as it may cause irritation to the expanding lung. Two tubes of $\frac{1}{4}$ inch diameter are often better than one of a larger diameter, and we have used a double tube so that the smaller will slip inside the larger one. The inner tube may be removed every day or two, cleaned and reinserted, as in the case of tracheotomy tube.

Gauze strips are often used along the drainage tubes to prevent the too rapid escape of pus.

Length of Time Drainage Tubes Should Be Left In Situ: No rule can be laid down as to how long the drainage tube should be left in for drainage, usually we remove the gauze about the fifth or sixth day. The tubes may be shortened so that about one-half to one inch will project inside the chest wall after a week or ten days, to allow for the expanding lung.

Whenever possible a second X-ray examination should be made about this time to note the lung expansion. This with the general appearance and clinical record must be our guide regarding removal of the tube. Drainage tubes should be soft so as not to injure the lung.

Tubes are seldom removed before three weeks, but great care must be used by leaving a tube in too long a time, as such causes irri-

tation to the expanding lung and keeps up the drainage.

As the pus decreases in amount the patient must be taught to expand the lung of the affected side. This may be done by such arrangements as with Wolff's bottles or by the patient sitting in an arm chair and with the hand of the affected side firmly compress the sound side of the chest against the side of the chair and while the normal side is immobilized make forcible inspirations.

In a considerable number of cases especially of long standing, the pus cavity persists and a sinus follows which refuses to heal, or heals only after a long period of time.

In some such cases will follow the use of Becks' paste, but in many cases a cure can not be obtained by any such method.

New Methods: Following the epidemic of 1917-18, much work has been done on this subject, by individuals and by empyema commissions.

Especially has this been true in the Medical Department of the U. S. Army, where the opportunities for such studies have been better than could be obtained in private practice. While no standard of uniformity has been obtained by these reports and while it must be very evident that too much stress should not be put on this or that form of treatment, taken from published reports as the virulence of the inciting cause, differed in the different camps, and slight differences of detail in technique may tend to influence the end results.

The principal to be obtained is to get a complete cure as quickly as possible, by following a specified technique or by a combination of methods.

In some cases good results have followed simple repeated aspiration, under strictly aseptic precaution, of the contents of the cavity, following this with the injection of Dakin's solution. Care is made that as little air as possible will enter the cavity during such treatment. At the first aspiration a small catheter tube is used and it is by this means that the aspiration is performed and the Dakin's fluid injected. As a rule the aspirations and injections are made from every four to six hours, a somewhat smaller amount of Dakin's solution being used than the amount of fluid aspirated. In reports made this method has apparently hastened the period of convalescence. This method aims at the sterilization of the abscess cavity and by the gradual aspiration of the pus allows for this normal expansion of the

lung. Several reports have been recorded, of hemorrhage following the irrigation with Dakin's solution.

Mozingo—at Walter Reed Hospital has reported very favorable results by a closed method.

A tube is inserted through a trocar and pus is aspirated and Dakin's solution injected, using care to prevent the entrance of air. These aspirations and injections are given every two hours during the day and three hours at night, after from five to seven days the cavity is usually rendered sterile. After the cavity is sterile a solution of 2 per cent. formalin in glycerin injection in amounts from three to 40 cc. but first washing out the cavity with Dakin's solution.

Care should be used in large cavities not to use more than 10 cc. of formalin solution on account of occasional severe re-action. The formalin injections are usually not made more than once in 24 hours, and before the injections are made, aspiration is performed. The results from such treatment would seem to indicate that this treatment tends to rapid sterilization of the abscess cavity and thereby shortens the sick period. Probably the most important factor in this form of treatment is that the Dakin's solution helps to dissolve the exudation which compress and fix the lung, and thus enables the lung to expand.

At the Rockefeller Institute the Carrell Dakin. Principals of wounds as carried out in the treatment of empyema.

The usual surgical procedures are carried out as rib resection, and the Carrell tubes inserted in different paths of the abscess cavity. Silver wire is placed in the tubes to stiffen them so that they may be carried to any desired part of the cavity so that all parts may be sterilized. The principal of early sterilization and closure is applied here as in the treatment of septic wounds elsewhere. No drainage tubes are used and gauze packing is placed around the tubing to prevent the too rapid escape of the hypochlorite solution.

The immediate region of the wound is protected with vaselined gauze to protect the adjacent skin.

Formula is vaseline 91 parts; paraffin, 6 parts; resin, 1 part.

The wound is injected every two hours dur-

ing the day and three hours during the night.

The Dakin solution is markedly irritating to normal pleura, but is not to inflamed pleura.

Smears and cultures are made every two or three days and when the culture is negative for two or three consecutive days or when the bacteria are not more than one or two to five fields the wound is closed.

There is no doubt in the usual empyema by the careful administration of Dakin's solution, properly given that the cases go on to more rapid recovery than if drainage and no Dakin's is used.

It must always be borne in mind that efficient drainage is always a great factor in the nearly recovery of these cases.

Treatment of Old Empyemas: With continued symptoms or persistence of pockets or sinuses.

This is a very important field and a very attractive one to one interested in thoracic surgery. Many patients have become chronic invalids on account of non-healing cavities with its attendant lung fixation. Not only is the local chronic infection a grave one, but the damage in the organs due to long, continual absorption are conducive to permanent ill health.

A careful clinical history with X-ray examination should be made upon every patient with chronic empyema and attempts made to obliterate the cavity by means of lung expansion rather than operations to collapse the chest wall.

A thorough test with Dakin's solution or formalin with glycerin, or Bismuth paste, should always be made before attempting operative procedures.

After a month or six weeks of effort in this direction if discharge still persists and improvement is not continuous, it may be well to consider surgical means to remove the exudate which prevents the expansion of the lung. It will usually be best not to attempt this type of surgery until thorough drainage has been established and attempts have been made to sterilize the cavity.

It is best not to do the operation until after six months or longer after the first operation.

After carefully locating the cavity, as well

as possible, an operation performed with the object in view of removing the thickened exudate should be made. This will be best performed by thoracotomy performed by means of spreading the ribs, removing the exudate and using care to injure the lung as little as possible. As the exudate is removed the lung will be seen to expand, often immediately and fill the cavity formerly the site of empyema.

After the removal of the exudate the wound is tightly closed with a small rubber catheter inserted through a stab drain to take care of any small oozing. Aspiration may be performed every few hours through this tube which should be removed as early as possible.

By such thoracotomy, operations, many cavities will be entirely and permanently healed.

641 David Whitney Bldg.

MICHIGAN'S CO-OPERATION WITH THE GOVERNMENT IN THE VENE- REAL DISEASE PROBLEM.*

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It is my desire to discuss, in an abstract way only, some of the government program in its attack on, and control of, venereal diseases in the army and civilian life of our state.

Medicine and surgery are most vitally related to the international events of the day. The army and navy have our best men, and the best of the profession, in their ranks, hospitals, and consultant service. The fact that the army of no other nation except America has so rapidly reached that high plane of efficiency demanded by modern warfare is due largely to the efforts of the medical profession. Upon them has fallen the task of selecting which of this country's boys were best able to withstand the hardships of modern warfare.

This means that every man enlisted in the United States army must be in good physical condition, the first requisite of any soldier. Without this physical fitness, he can not become a part of our army or navy. After being assigned, he is protected by every sanitary medical measure against disease. He is taught that it is his patriotic duty to keep well as sickness means inefficiency and the weakening of his division. Every man, from private to officer, in every branch of the service, has been carry-

ing on a post-graduate course of intensive education unequalled in civilian life. The result has been a surprise to the civilized world. America's melting pot army, made up of the fighting blood of every nation, is becoming a clean health army for liberty.

This country has demonstrated that it can well afford to stop its storing of great wealth, its bathing in luxury, to muster a great army for a short period because of what it has already attained in this broad education of its boys, especially the education in the prevention and transmission of venereal diseases.

In 1912 Congress passed a law to the effect that any soldier who was unable to perform his duties on account of venereal disease should forfeit his pay during that period and be kept under strict quarantine. This law was the outcome of the loss of men from active duty through venereal diseases, which comprised about one-fourth of the total sickness. It will be readily seen from this that the United States Public Health Service had taken definite steps in the control of this sanitary problem long before this country entered the late war. It is an accepted fact that our nation has learned and profited much from the mistakes of the other warring nations. This is particularly true regarding the prevention, treatment, and control of venereal diseases in the army. In the first two years of the war, the French and British armies showed the usual high percentage of venereal diseases and invalided thousands of trained men to the large venereal disease hospitals of both countries. Furloughs were allowed and spent in London and Paris where the uniformed man was the prey of the taxi-cab driver and prostitute until his pay check was exhausted when he returned to the ranks with a venereal infection which prevented his returning to active service.

The United States army and navy admit men with gonorrhea and syphilis to the cantonments for the reason that the soldier with venereal disease can be just as well, or better, treated in the service, while the strict quarantine prevents his spreading the infection, and after vigorous treatment he is further educated in prophylaxis and continence.

These military regulations for prevention, punishment, quarantine, and hospital treatment place the army and navy in a much higher health status than the civilian population. It has been so short a time since the uniformed men of the army, and more especially the navy, represented, and were, our greatest carriers

*Read before the Detroit Academy of Medicine.

and transmitters of venereal diseases. The tattooed mark of the sailor was considered to be a manifestation of a venereal infection by some clinicians. Today, under the new medical regulations, the United States uniform represents, and is recognized by the civilian population as representing, a part of the healthiest, cleanest body of men that ever filled the ranks of any army. The fathers, mothers, wives, and sweet-hearts of our boys now know that this country has set about to protect them against disease, both in their training camps and overseas. The weekly reports of the small percentage of venereal disease in the cantonments show a decrease of one-half over last year. The protection is not perfect, but it is coming nearer by leaps and bounds and I believe that I am safe in predicting that no soldier will be given an honorable discharge when the war is over if he has a communicable, contagious disease. This is the only means of preventing what has occurred in the disbanding of all armies, an appalling dissemination of venereal disease. No other nation has taken this opportunity and other countries are seeing the great scourge spread with a rapidity it could never gain except following a great war. For we know that infection acquired by the soldier in a foreign land by a strain from a foreign blood represents the most virulent type of the disease and results in infection of the innocent.

The health status of the civilian population is, as has already been said, far below that of the military. Therefore, the gigantic task before the nation and state is to eradicate, as far as possible, venereal disease and its carriers, so that we can continue to prevent infection when our soldiers return. You will all recall the discussion attendant on the first steps taken in this direction by the Surgeon-General and his Medical War Council, which the State Boards of Health were commanded to enforce. Michigan is most fortunate in its present governor, who selected the personnel of the State Board of Health, for on this Board are men of international reputation who, while hourly guiding the health of our new army, have given time to place our state in the front rank in this great health problem. The proof of this latter statement is best shown in the fact that not one, but several, secretaries of other state boards have been sent to Lansing to investigate Michigan's system in this new preventive measure.

War measure hospitalization of the irresponsible, mentally deficient, female venereal carrier has afforded an opportunity far in ad-

vance of any hospital care given this class hitherto. It is observed because we now have complete quarantine of the most dangerous of communicable contagious offenders.

During the hospital care we carry on intensive primary treatment of one or both venereal infections; about 60 per cent. having double infection. Appreciating the injustice, as well as the waste of valuable time and hospital expense, of forcing individuals to submit to treatment for syphilis when it did not exist and the greater injustice of failure to detect the disease when present, which has been the frequent mistake of all general hospitals in the past, the secretary of the State Board of Health and the heads of this hospital service have held several joint sessions to formulate a standard system of diagnosis and treatment. The result was a standard laboratory examination and clinical diagnosis, rechecked in every case to definitely exclude error, for the future of the syphilitic rests absolutely on the medical adviser.

The heads of the different departments are especially selected for the work and have at their call the special medical and surgical services of the hospital. The surgeon consults upon the removal of the pelvic appendages in extensive gonorrheal infection, it being impossible to cure some cases without this assistance. The dental department care for pyorrheic teeth before instigating mercurial treatment, a necessary precaution to prevent disagreeable mouth conditions and a decided handicap in medication. The oculist is consulted daily and there are always patients on the waiting list for tonsillectomies.

Every patient is also examined by a psychologist and classified. It is most startling to note that 84 per cent. of the patients are mentally deficient. In addition to this, a secretary of the Social Service department takes a social history, which is most valuable in placing the patient in the right position and surroundings when she is discharged from the hospital.

While in the hospital, the time of these patients (unless confined in bed) is scheduled for different work. Idleness or loafing is not encouraged. Every girl must go for her own meal tray; no one is allowed to bring it to her. Patients care for their beds, do their own laundry, work a certain time daily in the Red Cross Work Room, receive instruction in physical culture and in vocational training. Through the interest of one of our hospital trustees, a

branch machine shop has been added to the latter. During their training and treatment and on their discharge, they receive twenty-six cents per hour. The result is that they go out from this service with a bank account and a position awaiting them. Nor is the social life neglected. In the evening there are entertainments conducted under the auspices of the Young Woman's Association. Their reading material is also carefully selected.

A numbered duplicate discharge certificate with a recommendation for further observation and treatment is filled out; one copy of which remains with the history, another being sent to the State Board of Health, and the last to the doctor in the social service zone in which the patient lives. Here the patient is placed under the care of the social service department of the hospital and state. She is furnished with clothing, placed in a home in a position to earn her livelihood, and requested to report periodically to the social service clinic. The mentally deficient are sent to institutions.

Many must continue treatment and in order to prevent loss of time and oftentimes loss of position, a night clinic is now connected with this service and we are gratified to report upon the great success of it. It is not only paying, but has a surplus. This surplus is being used to obtain more equipment for industrial training. This, therefore, is a hospital and a school and the results are showing a yield many fold beyond our expectations.

We are greatly assisted in other ways than those hitherto discussed. State prohibition is, without doubt, of the greatest assistance in the work, and the unheard of opportunities offered women to fill the place of men at independent wages. What little will power this class possesses is no longer destroyed by alcohol and the increased wage affords what a large percentage crave, good clothes and independence.

This is a little of what Michigan has started in the attack upon the greatest scourge of our land. Our governor and his State Board, while abreast of any other state in this country in this problem, must have our support in this drive to render the civilian population of our state uninfected, as far as possible, to our boys as they return.

The following report from the psychopathic classifications of three hundred infected females given by Dr. Perkins is most convincing regarding what is to be the care as well as the treatment of this class. Of this number 43 per cent. were feeble-minded testing ten years or less; 24 per cent. were feeble-minded testing ten to 13 years; 2 per cent. were epileptic; 2 per cent. were insane; and 13 per cent. psychopathic. That is, 84 per cent. of the three hundred were atypical. Of this percentage, 64 per cent. were recommended for institutional care, but only 4 per cent. were admitted because of lack of space, leaving 60 per cent. to be turned back on the community.

This nation knows, through these statistics and reports from state institutions, the price it has paid for its licensing of the wide-open town with its liquor and sex self-indulgence. The annual expenditure of this state for the hospitalization, prophylaxis, and education of the venereally infected is saving the state, in the prevention it affords, the far greater expense of institutional care for the permanently hopeless syphilitic.

National prohibition and national control of habit-forming drugs are not far away. Institutional care of the mentally deficient and education in regard to the dangers and disgrace of venereal diseases are regulations that are sure to bring the civilian population up to the standard now being taught in the army.

Kresge Medical Bldg.

The Quality of the Market Supply of Procaine.—The local anesthetic procaine (first introduced as novocaine by the Farbwerke vorm. Meister, Lucius and Bruening, Höchst, A. M. Germany) is now manufactured by the Abbott Laboratories, the H. A. Metz Laboratories and the Rector Chemical Company. The products of these firms were accepted for New and Nonofficial Remedies after the A. M. A. Chemical Laboratory had reported specimens chemically satisfactory and the Cornell Pharmacologic Laboratory had determined that they were not unduly toxic. In accordance with its announcement to report from time to time on the quality of American made synthetics, the Council on Phar-

macy and Chemistry now publishes a report on the quality of the procaine now supplied to physicians. The examination demonstrates that the three brands were of a satisfactory quality. Some of the specimens of procaine-Abbott and procaine-Rector had a yellow or light brown tinge (a specimen of procaine-Metz "novocaine" recently sent the Council also had a slight yellow tinge), but so far as the evidence goes there is nothing to indicate that the discolored specimens are seriously impure. The Council considers the use of the discolored product justified in the present emergency, but urges that for the future a colorless preparation be supplied. (*Jour. A.M.A.*, Jan. 11, 1919, p. 136).

Transactions and Reports of Detroit Clinics

CASE HISTORIES.*

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St. Mary's Hospital.

The following cases from my service in the neurological department of St. Mary's hospital are reviewed here, because of their individual interest and for the purpose of showing the richness of the clinical material available for study and teaching in this clinic, rather than any attempt at detail in so limited a space. They have, however, all been thoroughly studied.

CASE No. CCXCIII. Italian, age 35 years, laborer. This patient was brought to the medical service of the hospital in an ambulance in an extremely helpless condition and was transferred to my service by Dr. Walter Wilson. He had quadriplegia, was utterly helpless in all four extremities, had double wrist drop and had, what appeared to be, atrophy of the small muscles of the hands, complained of pain in lumbar region and general weakness. He was so helpless that he had to be fed by the nurse.

Past History.—Denies previous illness of any kind.

Family History.—Impossible to obtain.

Present Illness.—Patient states that ten days ago he was unable to work due to weakness, had no pain, for three days confined to room but not to bed, had some fever, was able to eat. On the third day was up and around and about 6:30 that evening he fell over unconscious and remained so until the next day about noon. Came into the hospital the next day. Upon closer questioning it was discovered that patient had been out to a social affair, where eating and drinking were indulged in freely, the night before the onset of the present condition and that his statement as to fever was simply his own opinion. His temperature really was not taken and that his statement concerning his unconsciousness was incorrect. There was no actual loss of consciousness.

Examination.—Thin, swarthy Italian with very brown skin, especially of hands which were

also decidedly thin and tendons on backs of same prominent; pronounced double wrist drop; inability to approximate thumb and little finger of either hand; all other movements can be performed under urging; grip very poor in each hand, unable to grasp or hold objects in either hand; pupils equal and regular, react to light and accommodation, ocular fundi normal; knee jerks increased on both sides; no ankle clonus or Babinski; sensation of all kinds normal; bladder and rectum normal. Upon asking patient to perform various movements of arms, hands and wrists, he always pleaded it was impossible to do so, but upon urging did perform with difficulty movements requested. Although it was impossible for patient to flex his arm except very feebly, when the arms were flexed by the examiner and the patient instructed to resist extension, it was found that his resistance was so strong the examiner could not overcome it. When asked to sit up, stated that he could not, but upon urging did so but pleaded inability to stand but was finally, by urging, able to get up and sit on a blanket on the floor where he remained apparently helpless but upon strong urging got back to bed without assistance. Course of nerves not painful to pressure; pulse 78; temperature 98.5; blood pressure, sys. 130; dia. 100; Wassermann negative; Urinalysis, amber clear, acid, spg. 1018, fine trace albumin, sug. neg., mieros. good many hyaline and granular casts, few pus cells. In the diagnosis of this case there were five conditions to be considered and excluded as follows: Based upon the patient's statement when he entered the hospital, apoplexy, because the condition was bilateral, which is very rare in cerebral hemorrhage and because the symptoms were not progressive, which would be apt to be the fact if a hemorrhage large enough to produce such extensive symptoms occurred. There was no apparent shock and no disturbance of blood pressure or pulse rate. Anterior poliomyelitis, because reflexes were prompt rather than diminished and the weakness was more apparent than real. Multiple neuritis, by lack of pain over the course of various nerves. Syringomyelia, by presence of pain and tem-

*Cases exhibited before Wayne County Medical Society.

perature sense and absence of atrophy or trophic disturbance. Amyotrophic-lateral-sclerosis, by absence of fibrillation or hyper-reflexia in general, together with absence of atrophy. This leaves hysteria, alone, which is supported by the facts in the case. This patient, as stated above, had been indulging rather freely in excessive eating and drinking and his gastro-intestinal tract became disturbed, he developed lumbago and vertigo, he became so dizzy that he lost his balance and, being of the Italian race which is noted for emotionalism, concluded he must be paralyzed or he would not fall since he was not drunk, therefore, he immediately proceeded to become paralyzed and developed the helpless condition described above. By psychotherapy he was able to leave the hospital fully recovered, within ten days after treatment was instituted.

CASE No. 5215. Boy, age 8 years, marked purposeless movements; four weeks ago influenza; three weeks ago chorea began; born at term, instrumental labor; breast fed one year; one tooth at nine months; walked and talked at same time, sixteen months; commenced school at seven years; always sickly child.

Past History.—Whooping cough one year ago; scarlet fever two years ago; pneumonia two years ago; measles at two years; bronchitis in infancy; second of five children, one died cause unknown, others rather thin; aunt on maternal and paternal side each had chorea; paternal cousin also had it; maternal grandfather died of cancer.

Examination.—Tachycardia, arrhythmia, myocarditis. This is a typical case of Sydenham's chorea and bears out thoroughly my oft stated opinion that this condition is engrafted upon a neuropathic base, fundamental defective germ plasm. His birth was retarded and his development in every way was also tardy and his family history was distinctly neurotic. He had as great a burden as he could carry to meet the ordinary vicissitudes of life and when the added burden of influenza was placed upon him his muscular and nervous equilibrium were temporarily disrupted and chorea resulted. The same result might have been produced by any other infection, or emotional or traumatic shock. Under rest, arsenic and salicylates complete recovery occurred.

CASE No. 764.—Female, age 35 years, one child 8 years, no miscarriages.

C. C.—Involuntary movements of head, arms and body, sometimes of legs and feet; nervousness; asthenia; tendency to fecal incontinency;

impossible to hold objects in hands; walks in sleep; restless; headaches; onset three years ago; progressively worse.

Past History.—Tonsillitis, measles, chicken-pox, whooping cough, ovariectomy, gonorrhea, leucorrhoea, appendectomy, retroverted uterus (corrected at operation).

Family History.—Father had chorea, beginning in early manhood, lasting until death at 65 years. During course of his chorea he became progressively demented. Mother died at 42, cause unknown; paternal grandparent to the fifth generation, paternal aunt and several cousins had this same form of chorea, which resulted in mental deterioration and death, and patient states, her mother told her several other members of the family were similarly affected.

Examination.—Well nourished female with happy expression and choreiform movements; inclined to be verbose; distinctly euphoric; pupils equal, normal in reaction, eye grounds mottled, rather gray in color; pyorrhea; swollen, inflamed tonsils; chronic rhinitis; cardiac arrhythmia; all reflexes exaggerated; slight Romberg.

Diagnosis.—Huntington's chorea. Prognosis in this case decidedly unfavorable and treatment of no avail, although the patient is confident and satisfied she is constantly improving. Her happy state of mind is due to gradual shading off of mentality, as this disease is due to a gradual degeneration of the cortical cells and those of the gray nuclei.

CASE No. 5054. Male, age 20 years, single.

C. C.—Asthenia; anorexia; irritability; does not sleep well nor feel refreshed after night's rest, tosses about; has strong impulse to accomplish great deeds, especially in the way of literature; feels superior, has inner consciousness of spiritual superiority; feels he is inspired by the Muses; grandiose; carries large package of mms. of disjointed sentences which he declares to be examples of his inspirations. They have no rhyme or reason in them. They are entirely fragmentary.

Past History.—First two years of life very sickly.

Family History.—Father died of paralysis; mother living and well; one sister insane at 14 years, again at 28; rest of family well.

Examination.—Patient carries himself with a superior air; wise confident expression; happy, self satisfied, exalted mood; decidedly talkative concerning self and prowess; all reflexes increased, otherwise negative.

Diagnosis.—Dementia-praecox in paranoid state. Committed to Ann Arbor for treatment.

CASE No. 4091. Male, age 30 years, American, Newsdealer, single.

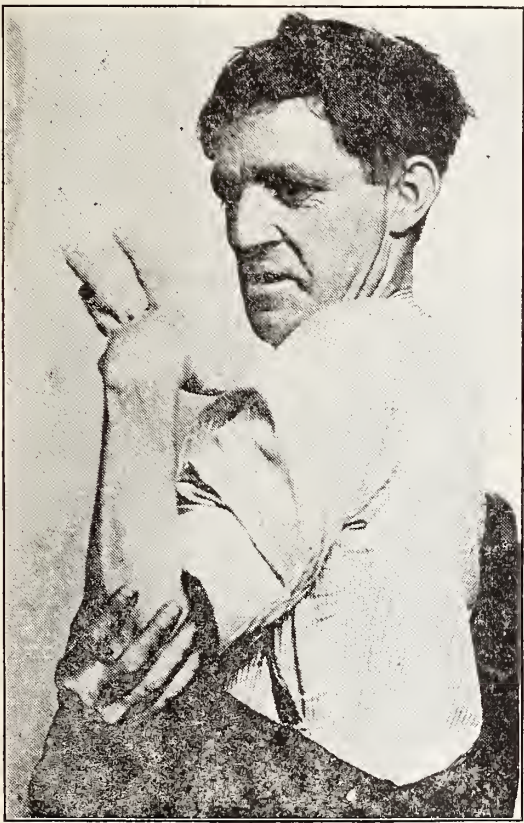
C. C.—Pain in left side, radiating from region of ileac crest to shoulder, existing about three weeks; forced movements of athetoid character of left hand and arm and grimacing of face, spasticity of left arm and leg.

Past History.—At seven months of age had pneumonia during which temperature ran high, patient became comatose and left hemiplegia occurred; no other illnesses of consequence; feet were crossed so that he had a scis-

and triceps jerks increased on left side, normal on right, pain to pressure over left side, especially from ileac crest to costal cartilages; mentality somewhat undeveloped; laboratory findings negative; lungs, liver, stomach negative.

No definite cause could be assigned for the pain and it was believed to be functional, did not respond to ordinary sedatives, as acetanilid or phenacetin but the static spark gave immediate relief.

Diagnosis.—Athetosis, hemiplegia, arrested development. In view of the extremely meagre history and the fact that the patient has not yet reached autopsy, it is impossible to make an absolute statement as to the pathology but I think we are justified in visualizing, that at the time of the pneumonia and its accompanying high temperature and the subsequent comatose state, mentioned above, that a hemorrhage occurred, probably of the lenticulo striate artery with a resulting clot, interfering with function and producing secondary degeneration in the region of the internal capsule and lenticular nucleus, for such a capsular lesion would account for the paralytic symptoms, while the involvement of the pallidal system in the immediate neighborhood would account for the athetosis. For we know that the large motor cells of the pallidal system, including those of the caudate nucleus, preside over the lower forms of motion, especially systematized automatic movements. A recent article by Hunt throws considerable light on this subject.¹ I present now two cases of right sided facial paralysis, one central and the other peripheral in type. Neither of these cases is of great interest individually but shown side by side, as I do here, they illustrate well the difference between a lesion of the upper motor neuron of the facial nerve and a lesion of the lower motor neuron of the same.



sors gait which was corrected by use of brace, no longer necessary.

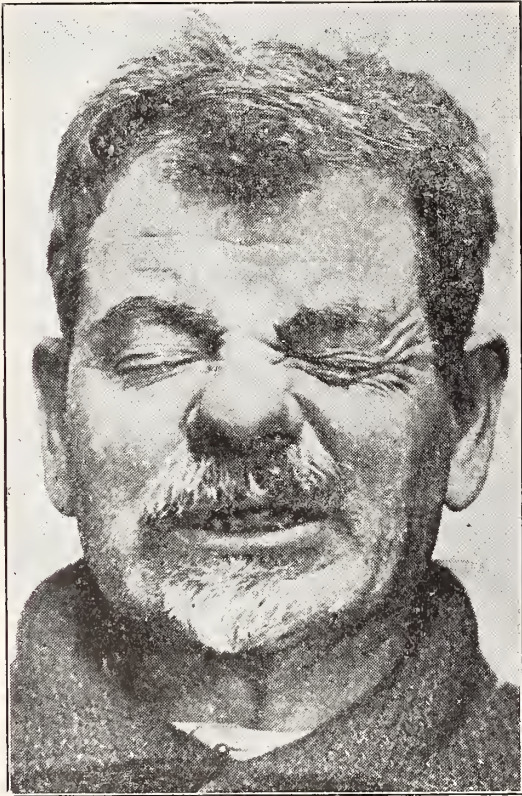
Family History.—Negative.

Examination.—Fairly well nourished young man with constant motion of left hand, arm and shoulder and forced turning of head to left side and grimacing; (see illustration) station good; gait spastic, especially left leg; forward attitude; internal strabismus of left eye; pupils regular, equal, react to light and accommodation, conjunctiva congested, ocular fundi normal; nasal mucous membrane chronically inflamed, septum deviated to right, middle turbinates enlarged; left arm and leg smaller than right because of arrested development; biceps

CASE No. 5230. Male, age 52 years, tailor, Russian. Whose photograph is here presented is of the central or upper motor neuron type. The lesion responsible for the facial condition is situated in the knee of the internal capsule or in the facial fibres between the knee and the nucleus of the seventh nerve, which is situated in the formatio reticularis of the pons. The paralysis is spastic in type and involves, chiefly, the lower part of the face. The patient is able to wrinkle both sides of the forehead and close both eyes but is unable to use the muscles of the mouth symmetrically. This facial condition is

1. Brain, Vol. XL, No. 1, 1917.

part of a right hemiplegia, due to involvement of the anterior two-thirds of the posterior limb of the internal capsule, which occurred suddenly June 15th, while in his home. He was not unconscious but could not speak and lost control of both bladder and rectum, unable to



typhoid at 12; has had severe headaches and impaired hearing since typhoid; constipation.

Examination.—Right side of face paralyzed; unable to wrinkle brow on that side; face drawn to left, smooth on right; mouth drops to left, unable to use mouth muscles on right side; cannot close right eye-lid, eye rolls up when closure is attempted; tongue protrudes straight; pyorrhea; inflamed, cryptic tonsils; reflexes and station good. Following is the report of Dr. A. O. Brown; "Nasal passages clear, no sinus infection, tonsils small, partially covered by the pillars, numerous crypts in tonsils which were filled with pus and debris, crypts cleaned out with small applicator." Tonsils later removed. Pathological report from Dr. James E. Davis states that the tonsils were filled with pus pockets and evidence of chronic inflammation and very spectacular in appearance. I believe that the paralysis in this case can be attributed to the infection from the tonsils. The condition is rapidly clearing up since removal.

Photograph shows author's method of correcting tension on flaccid paralyzed muscles by



eat because of inability to retain food in mouth or to swallow. Actual attack was preceded several days by strange feeling in the head, not precipitated by any excitement. Was unable to walk for three months after attack.

Past History.—Had rheumatism at intervals for twenty-six years, denies all other illness.

Family History.—Negative.

CASE NO. 5190. Whose photograph is here presented, is of the peripheral type. In this case the lesion can be only in the lower motor neuron, either in its nucleus in the pons or in the fibres peripheral thereto, and is a flaccid paralysis.

Female, age 32 years, Russian, married ten years, four children, no miscarriages.

C. C.—Paralysis of right side of face which appeared nine weeks ago, retired all right and awoke with paralysis present, followed in three weeks by influenza, in bed three weeks.

Past History.—Diseases of childhood;

contraction of muscles of sound side. This dressing consists of a small rubber band anchored at the corner of the mouth and in front of the ear by adhesive strips and its use hastens restoration of muscle tone and lessens tendency to atrophy from constant strain.

POST-INFLUENZAL PSYCHOSIS.

DR. W. M. DONALD, M.D.

Attending Physician to St. Mary's Hospital.

On December 19th I was called hurriedly in the morning about eight o'clock to see a man who was a total stranger to me, and who was said to have some sort of fit. On arriving at the house very shortly afterwards I discovered a man of about 35, lying in bed, and having a slight attack of epileptiform convulsions. The lips and eyelids were twitching slightly, the tongue was being constantly used to moisten the lips and the patient was apparently unconscious. His pulse and temperature were normal, his blood pressure was 110 systolic and 85 diastolic. He was given 10 grains of bromide every 3 hours and arrangements were made to see him in the evening. On my second visit at this time I found that he had had several more attacks of the same kind, and after each one, fell into a deep sleep, from which he could with difficulty be aroused. I secured a sample of urine for examination and found it normal, both by chemical and microscopic tests. There was still no rise in temperature, no rigidity of the neck and no deviation in the size or character of the pupils.

I obtained the following short history: The man was named Joseph S., aged 35, white, single, and machinist by occupation. He was boarding in the house where he was taken sick, and with him were some friends who had known him for years. They said that his previous health had been good, but that a week before I saw him he had had an attack, which the attending physician characterized as a slight touch of pneumonia. Since, however, the physician saw him but once, since he had no rusty sputum, and since he was sick for only about four days, the assumption was that the disease from which he suffered was not pneumonia, but an attack of the very prevalent influenza. He had been up and around the house about three days after this and seemed to be comparatively well, though weak. His bowels and appetite and digestion were normal.

On the morning of the attack he had risen from bed to summon his associates for work and suddenly fell over on the bed with the so-called fit. For the next two days he had repeated attacks of the same epileptiform type, followed in every case by long sleeping periods. His physical condition remained otherwise the same. He ate fairly well, and occasionally talked a little to his associates, though somewhat incoherently and uninterestedly.

On the morning of the fourth day I was again summoned hurriedly with the statement that the man had suddenly gone blind. On my arrival I discovered the patient in a state of considerable excitement, bemoaning his loss of sight and asking wildly what was the matter. His actions and conversation were quite incoherent and incoordinate. He did not recognize any of his friends, nor did he recognize me. He could be stilled for a moment, but immediately reverted to the original proposition of "What is the matter, and why can't I see?" After calming him with a sedative, and allowing a few hours to elapse, he admitted that he could see vaguely the light of the window or of a lamp or of some bright object at some distance from him.

As possibilities were considered some form of Nephritis with an albuminuric retinitis, a Diabetic blindness, some form of Meningitis, possibly T. B., Cerebro Spinal Syphilis, Cerebral Gumma and true Epilepsy. The negative urinary findings and the low blood pressure practically ruled out both nephritis and diabetes. The lack of pressure symptoms and a normal temperature gave a negative diagnosis to the suggestions of meningitis. True epilepsy was considered as a remote possibility inasmuch as the man was 35 years of age and never had had a previous attack. This left us then with the two possible factors of cerebral gumma, and cerebrospinal syphilis. He was sent at this time, December 24, to St. Mary's Hospital for intensive study. There his blood was found normal, both as to cell count and as to Wassermann reaction. The urinary and blood pressure findings already made were confirmed. All reflexes were found to be normal. Heart, lungs and abdominal organs were all normal. Spinal fluid was withdrawn under normal pressure, and found negative as to Wassermann, and normal as to cell count, globulin and sugar contents. The sputum was likewise examined for possible obscure tuberculosis, and nothing found but some staph and strep. Dr. Eugene Smith was asked to examine the eye grounds and reported slight iris adhesions and some considerable congestion of the retinal vessels, possibly due to his convulsions, but said that otherwise the retina was normal and that his vision up to that point was probably perfect. A little later, from his brother, who came here from Pennsylvania, and from one of his friends, the following history was obtained:

His father was dead at the age of 60, cause unknown; mother dead at the age of 55, of

pneumonia; six brothers living and well, two sisters living and well. His past history showed no sickness in early childhood except measles and mumps, and a fractured tibia in a railroad accident in 1905. From all of these he convalesced without any trouble. There is absolutely no history of tuberculosis, rheumatism, tonsillitis, nephritis, insanity or epilepsy, either in his own case or in that of any members of his family.

Both the grandparents and parents of the patient were honest hardworking people, had never showed at any time any nervous symptoms, nor were they subject to fits of anger, hysteria or melancholy. The patient has always been temperate, a steady worker and well liked by his employers and friends. He has had no cause for worry over financial matters, or domestic affairs. He was comfortably located in a boarding house, and according to his friends had no love affairs to worry him. He has never been in any kind of trouble, nor has he ever shown any evidences of worry or anxiety. After being in the hospital for twenty-four hours he became so violent that restraint was necessary and was continued at intervals for several days. His memory seemed to be gone. He did not know where he lived nor what he had been doing. He had no knowledge of his attacks of convulsions nor of the onset of his blindness. He could not remember the names of any of his friends, except one. He knew his own name and own age.

The negative findings in the spinal fluid and continued negative findings throughout his physical examination forced us away from the possible diagnosis of syphilis of the cord or of the brain. We were thus step by step forced back to the conclusion that the patient was suffering from a psychosis. Dr. Smith insisted on his second examination that the patient could see and that the case was of an hysterical nature, and the other physicians were

obliged through the ocular findings and through the physical examination, all of which were negative, to conclude that such a diagnosis must be a correct one. The lesion in our judgment was very similar to that following shell shock, and the treatment was identical with that used for such trouble. Suggestive therapeutics or psychotherapy was used at once and continued until he left for his home in Pennsylvania about three weeks after he entered the hospital. He was then practically well but weak. He could see any ordinary object and had largely recovered his memory.

A great deal of patience was used both by the writer, by the interne in charge of the case, and by his brother, who was the nurse, in carrying out the plans for suggestive therapeutics. Thus for instance, he was assured that he could see certain things, then a white enamel table was pointed out to him. First he noted it was white, then after patient questioning that it was square, and thirdly that it had legs. Being then asked what it was, he replied with some hesitation "a table." Optimism was the keynote of treatment, and patience and persistence the cornerstones of the fabric of cure.

The diagnosis was made of a post influenzal psychosis of an hysterical nature. The prognosis was somewhat guarded because it was feared that he might develop a psychasthenia or neurasthenia of a permanent character.

Outside of the psychotherapy no treatment was given except an occasional dose of bromide for sedation and for sleep. Gentian was given for a tonic, and rest in bed was mandatory for the first week and permitted and recommended when weary during the rest of the cure.

As remarked before, when he left here he was comparatively well and reports a steady improvement since that time. The case is presented on account of the obscurity of the early diagnosis and to show the value of suggestive therapeutics in such cases.

Pluriglandular Mixtures.—The Council on Pharmacy and Chemistry reports that the following preparations put out by Henry R. Harrower have been found ineligible for New and Nonofficial Remedies: Caps. Adreno-Spermin Comp.; Caps. Antero-Pituitary Comp.; Caps. Placanto-Mammary Comp.; Caps. Thyro-Ovarian Comp.; Caps. Hepato-Splenic Comp.; Caps. Pancreas Comp., and Caps. Thyroid Comp. Each of the mixtures contained one ingredient or more which is neither recognized in the U. S. Pharmacopoeia nor admitted to New and Nonofficial Remedies. For obvious reasons the Council does not accept a mixture containing an

indefinite ingredient; hence, it would be necessary as a preliminary for the consideration of any one of the mixtures that their unofficial ingredients be made eligible for New and Nonofficial Remedies, by the submission of evidence that such ingredient is of uniform composition and that it is therapeutically valuable when given by mouth. The mixtures were also ineligible because in the light of our knowledge the administration of gland mixtures in the host of conditions enumerated in the advertising circular of Harrower is irrational and on a par with the use of shotgun mixtures once in vogue. (*Jour. A.M.A.*, Jan. 18, 1919, p. 213).

The Journal

OF THE

Michigan State Medical Society

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R. S. Buckland Baraga

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March

Editorials

MEMBERS ATTENTION.

The Editor requests all members who are or have been in the service to send him their photograph (in uniform if possible) as soon as they can conveniently do so, but all photographs must be in by April 1st, for publication in our May issue.

ANNUAL MEETING.

Place—Detroit.

Time—May 21-22.

Host—Wayne County Medical Society.

Program—One of the very best.

Features—Victory meeting.

Attendance—The best.

The following have been appointed on the Committee of Arrangements:

Doctor F. B. Tibbals, Chairman, Kresge Medical Bldg. Doctor John N. Bell, David Whitney Bldg. Doctor L. J. Hirschman, Kresge Medical Bldg., Doctor E. W. Haass, Fine Arts Bldg. Doctor Harold Wilson, David Whitney Bldg.

The following members were appointed Chairmen of the various Sub-Committees:

Dr. Louis J. Hirschman, Committee on Hotels, Halls and Meeting Places and Registration.

Dr. Harold Wilson, Committee on Entertainment.

Dr. E. W. Haass, Committee on Finance.

Dr. Guy L. Connor, Committee on Automobiles.

Dr. E. H. Sichler, Committee on Printing, Badges, Posters.

Dr. John N. Bell is Secretary of Committee on Arrangements.

The Chairman has appointed Dr. R. L. Clark, Chairman of the Committee of Exhibits.

DUES.

To keep up the standard of this *Journal* requires money and the cost of this publication is expensive. Your Secretary, Doctor F. C. Warnshuis, was fortunate enough to buy up a sufficient amount of good paper to last us for almost a year.

The Secretaries should not wait until their full quota has paid, but the dues should be remitted to this office as soon as received. The rules of the Society are that those who have not paid their dues by April 1st are suspended for non payment of dues. The revenue derived from the dues is practically the only revenue for the *Journal* expense and an early calculation is made accordingly, and unless the dues are paid and paid promptly the size of the *Journal* will have to be materially decreased. Therefore, pay your dues and keep up our standard, and thereby derive the benefits of the defense fund. Failing to pay your dues deprives you of the benefit from the medical defense fund.

The secretaries of the county societies are urged to send to this office the reports of their meetings so that the same may be published

correctly in the *Journal*. Many of the secretaries fail to send us the minutes of their meetings, and then we publish the same according to clippings received which in many instances contain errors. When an error of this character creeps in, the *Journal* is taken to task about the same. This is wrong and the error is due to the County Secretary instead of the *Journal*. Always report the minutes of your meetings as soon as held to this office and no errors will occur.

The secretaries should inform the *Journal* of anything that has been done of a special nature. If papers have been read, send us the papers for publication; if the entire article cannot be obtained send us a synopsis of the of the same as only by this interchange of ideas can we succeed.

Our Annual State Society Meeting will be known as a Victory Meeting, and it is evident that the addresses and the major portion of the papers will pertain to war work in some form or other. Our exchanges also show that other states have this same form of meeting in mind. By the announcement of the A.M.A. the Atlantic City meeting will be a Victory Meeting.

We do need the co-operation of the component Societies to make this meeting one of the best that has ever been held, and to contribute to the Society such requests as already have been made. The *Journal* wishes to publish the pictures of all of their members who have done cantonment or overseas work.

The County Societies must send in the photographs of their members so that they will gain their proper recognition and if it is not done, the *Journal* cannot be responsible for the failure of their non-appearance.

All this data must be in the hands of the *Journal* not later than April 1st as we go to press on that date. Our *Journal* will be a large one and it will take a considerable length of time to make all corrections which are necessary prior to publication.

MEDICAL LEGISLATION.

The *Journal* has been credibly informed that the bill "To promote the protection of the public health, to provide for the appointment of county health officers in and for the various counties of the State, and to prescribe the compensation, powers and duties thereof," and

the appropriation for the Venereal Disease question and its eradication will pass.

Some objection has been raised relative to the full time health officer. When medical legislation is attempted and bills are presented which in the main show a betterment for the profession it is evident that some minor points are made exceptions. We should grant to the framers of these bills honor and good intent for their presentation. The medical legislation has been very lax due to the fact that the members of the profession are either not united as they should be for their own preservation and betterment or they show a too lax interest in measures of this character. We will admit that some changes might be made, but these are good bills and should pass, but if the profession is going to knock on minor conditions of the bills and present this or the other objection to their representative, no bill no matter of what character is going to be able to be passed on account of these objections as the representative does not know what is best to be done and it is on this account that many good bills have been presented and have been pigeon holed. These small variations should be laid aside when the object of the measure is for the good of the majority, and we should not thwart its usefulness by individual selfishness.

We hope that the profession as a unit will give its full support to the passage of the bills that relate to medicine which are before this legislative board.

"OVER HERE."

Increasing experience and continued association in a professional relationship with our more severely wounded soldiers who are yet unfit to undertake the journey homeward continues to increase our knowledge of the surgical problems that are involved in the care that is required for their restoration to health and physical activity. It would be fatuous indeed to attempt to set forth any dogmatic principles of treatment or express fixed opinions upon this or that method or form of surgical treatment. Neither do I believe that there exists among the medical officers now in France a unanimity of opinions regarding any single method. Every procedure that is being employed has its adherents as well as its opposers. No happy medium or routine form of treatment seemingly exists and one pursues the methods that personal experience dictates as

the means best suited to surmount the difficulties that confront the surgeon.

Personally I've seen over 5,000 cases of wounded soldiers and in addition to a physical examination I've had the opportunity of reviewing their clinical records of various services in which they had undergone treatment before reaching this base. I have been afforded the opportunity of noting the results secured from varied methods that were employed. While most all these methods represent much that is commendable yet they likewise give physical evidence of details and principles that are pernicious. The end results can as yet not be tabulated and final conclusions must be postponed until some future date.

It is here that I may make note that the results of imparted conclusions of writers who discuss any series of cases must be discounted unless they are based on statistics wherein each group of such series and each case has been followed until the soldier returned to full duty or was actually discharged from the service. There has been and will be, possibly by reason of pardonable enthusiasm, a tendency to publish personal experiences and conclusions on certain surgical conditions that came under an author's personal care. The series may deal with hundreds or even thousands of cases and so present an impressive array of cases. Unless that author has followed these cases beyond his own hospital base, from which they are frequently evacuated before the ultimate result is established, his conclusions may tend to lead one astray from dependable surgical axioms.

I am continually encountering cases which are far from convalescent and which might easily be considered as having undergone an "uneventful recovery" but which are in reality far from the recovered state and still require radical surgical work that bears no relationship to reconstructive surgery. I therefor believe firmly that we would all do well to simply set forth our results as far as we have been connected with any given condition and there cause our conclusions to be but tentative with the implied reservation that definite pronouncements must await more matured observations and summarization.

A personal experience with a goodly number of empyemas in which Dakin's solution had been used by others who preceded us while I was at Camp Sherman and in collaboration with Major W. T. Dodge and a like and continuing experience since my arrival in France strongly causes me to be inclined to speak in severest

and most emphatic terms of condemnation of Dakin's Solution for pleural irrigation. I have yet to see a case that did not evidence the prolongation of that condition. I must yet be convinced that it is the solution par excellence and while holding myself open to conviction, I am becoming more and more impressed with the fact that it is a pernicious practice to employ that solution in empyema. He who inspires its employment and thoracotomy in preference to costatectomy *without* irrigation is subscribing to an unsurgical procedure that merits naught but condemnation. I have yet to see wherein it has any claim for preference.

While speaking of Dakin's solution and also while fully realizing that many able men are on record as testifying to its efficacy I am personally becoming more and more opposed to its use as I am forced to deal with conditions in which it has been employed. I realize that often it has been employed incorrectly and not in accordance with the technic established still my observations are based on surgical results wherein its proper method of use had been observed. I confess to a regret to have to assume such an attitude and am still holding myself ready to subscribe to the use of Dakin's solution but thus far I've not encountered results that would cause me to employ it in any surgical condition.

Probably the most universal treatment, that was in vogue at the time that actual fighting ceased, for the treatment of battle wounds was that form commonly termed as "debridement."

As many know it calls for a wide and free dissection of all lacerated and infected tissues and the conservation only of vital anatomical structures. The resulting wound is not sutured but is drained, packed and left wide open. That method has without doubt prevented the loss of life from infection. It likewise accounts for the long period of hospitalization required by a wounded soldier and also will be the cause for continued hospital residence for reconstructive surgical procedures after the soldier is returned to the United States. The time element, while an important factor, becomes a matter of but minor consideration when we reflect that life has been saved and functional use will be largely regained when the benefits of constructive surgery are subsequently obtained. It also accounts for the wounded's delayed return home and is likewise the reason why so many of the profession are on duty in the Base Hospital centers in France. Debridement is a

recognized surgical practice and will be of continued value in industrial surgery.

As stated in the opening paragraph my relationship with increasingly large number of cases is leading me into large fields of surgical conditions that present fertile pastures for detailed observation. As passing days bring the final results and an opportunity is thus afforded for matured reflection and ultimate conclusions I am desisting from making any definite statements. I am hoping that the opportunity may be mine to discuss in detail the principles of war surgery and am collecting case records for that purpose. This communication is but intended to arouse an analytical attitude towards all such problems.

Sincerely,

FREDERICK C. WARNSHUIS,
Major, M. C.

THE FAILURE OF GERMAN COMPULSORY HEALTH INSURANCE.

Prior to the entering of the United States into the world war, social insurance was under general discussion in medical, public health, social reform and philanthropic circles. Eight states appointed commissions to investigate the subject and submit reports and recommendations. With the return of peace it is highly probable that this discussion will be resumed. While the American Medical Association has taken no definite stand on the fundamental questions involved, it has, by the adoption of the resolutions presented to the House of Delegates in New York in 1917, indicated a minimum basis on which the medical profession will co-operate in case the plan is adopted by any state. To the majority of physicians the question is an open one on which they are keenly desirous of securing all the information possible. Much has been written in favor of social insurance from an economic and public health standpoint; many claims have been made regarding results in other countries; but little has been written in the form of definite criticism of the proposed plan and its results elsewhere. For this reason, the paper presented before the twelfth annual meeting of the Association of Life Insurance Presidents by Mr. Frederick L. Hoffman will doubtless arouse considerable discussion.

The primary purpose of the establishment of compulsory social insurance in Germany, according to Mr. Hoffman, was to hinder the rise, curtail the power, and ultimately destroy the socialistic movement in Germany. "By means of a cleverly devised terminology and downright methods of deliberate deception, the German working people were deluded into the belief" that compulsory health insurance was primarily intended for their benefit. In this way the German government hoped to bring about the complete subjection of German wage earners to the will of the bureaucratic and political machine. "All compulsory social insurance," says Mr. Hoffman, "rests on profound misconceptions of life and labor in a democracy, for it involves the

establishment of permanent class distinctions." After thirty years' trial in Germany, compulsory health insurance, he asserts, has not improved the health of the working portion of the community or the standard of public health, while financially it is at present in a condition of chaos. It has increased malingering among employees to such an extent that only 26.6 per cent. of the alleged illness in Leipzig was found to be real. As to the claim of improvement in the health of employees, in 1884-1885, in Dresden when the fund was established, the percentage of employees claiming sick benefit was 30.4, while in 1913, after twenty-nine years of operation, the percentage was 32.2; in other words, the amount of illness among the insured after thirty years of insurance was greater than it was in the beginning. There were 27.7 per cent. of deaths from tuberculosis among male wage earners, as compared with 21 per cent. for the same class in the United States registration area. Regarding financial conditions, the report of the sick fund for Königsberg for 1917 shows that expenditures have increased 75 per cent. as compared with 1915, and that the assessment on wages has been raised from 4.5 per cent. to 6 per cent. to meet this increased expense. Dishonesty and deception on the part of patients, druggists and physicians with a general undermining of the morale of the community, are also charged. Some of Mr. Hoffman's conclusions bear on the social results of compulsory insurance. It has not checked the spread of socialism in Germany, he asserts, but has increased the demand of workmen for additional benefits; it has not improved the economic condition of the German wage earner, since the benefits that it provides were never adequate to meet more than the requirements of the minimum standard of living. It has not reduced disease nor improved public health conditions. In the field of sanitary reform the United States, in the last thirty years, he declares, has advanced far more rapidly without social insurance than Germany has with it. The death rate in Germany has not diminished proportionately as it has in this country. The condition of the medical profession in Germany has not been improved, but, on the contrary, the ethical standards of the profession have been perceptibly lowered. The sickness rate among German wage earners has not been reduced; increased demands on the funds both now and in the future will require either increased contributions from wage earners, withdrawals from the financial reserves, or both. The system has resulted in a lowering of social and individual morality and has fostered deception, dissatisfaction and dissimulation. The German experience in Mr. Hoffman's opinion, proves the inadequacy of social insurance as an effective means of securing the required degree of continuous social progress demanded by modern standards of labor and life.

Mr. Hoffman's conclusions will doubtless be challenged by the advocates of social insurance. The charges he makes against German-administered social insurance are serious. If sustained by the evidence, they are entitled to serious consideration. In determining his attitude on the question, every physician must avail himself of all the information he can secure on both sides of the question and weigh the evidence for and against. Mr. Hoffman's

paper is a specific attack on the proposed social insurance plan, and as such should be considered by the student of the subject—*Jour. A.M.A.*, Feb. 1, 1919.

MICHIGAN WILL PROHIBIT THE DENTAL PARLOR METHOD OF PRACTICING DENTISTRY.

C. N. Johnson, M.A.D.D.S.,
Editor of the Dental Review,
913 Marshall Field Bldg., Chicago, Ill.

The quack dentist is just as bad as the quack physician. Both are capable of doing great damage as has been abundantly demonstrated in the past. In most states legislation has been enacted to protect the people against the quack physician and a similar disposition is developing against the quack dentist. No intelligent legislator would for a moment think of patronizing a quack or sending his family to such a man. He is too well informed, and has too much at heart his family's interests to take such a chance as that. Why then should he be willing that his constituents, many of whom are not so well able to judge of such matters as he is, be subjected to this kind of imposition when he has it within his power to protect them?

Reputable men either in medicine or dentistry do not hide behind high-sounding and misleading names. These fictitious titles are merely bait to catch the unwary, and they have already caught enough to drag the name of dentistry into the dirt.

If all the endless aches and pains caused by these quack concerns were possible of concentration they would send a howl to heaven that would ring in the ears of legislators till they passed the needed measure to abolish such imposition. It is the tendency of the age to expose fraud and wrong doing. Investigations are in progress all the while against commercial combinations and monopolies. How much more important it is to expose the wrong which injures the individual instead of his pocketbook. This is a matter not only of money, but of the welfare and even the lives of the people who are represented by the legislators of the sovereign state, and no legislator will hesitate for one moment to protect his constituents if he only knows clearly and fully what is for their greatest good. Suppressing quackery is one of the most tangible benefits that any legislator can pass on to his people.

An amendment to the dental statute of the State of Michigan has been introduced into the Legislature, which aims to prohibit the practice of dentistry under a trade name, and the best interests of the people of Michigan requires that it should be passed.

New York State already has this law, and the Attorney General and the Assistant Commissioner of Education, Mr. Augustus Downing can attest to its value as a public health measure. The New York Law reads as follows:

The New York Law.

"A person shall be deemed guilty of a misdemeanor and upon every conviction thereof shall be punished by a fine of not less than two hun-

dred and fifty dollars, or by imprisonment for not less than six months or by both fine and imprisonment, who

"Shall practice dentistry under a false or assumed name or under the license or registration of another person of the same name, or under the name of a corporation, company, association, parlor or trade name, etc., etc." The exception being legally incorporated concerns in existence at the time of the passage of the act, who were permitted to continue, on condition that they employ only licensed dentists to operate, and that their advertising matter should conform with rules made by the Board of Regents. A further condition being that if any such corporation should cease to do business for any reason, it would not be permitted to resume.

It may seem anomalous that it should be considered against the public weal to practice dentistry under a trade name, and that nevertheless the very statute which erected this dogma should yet make exceptions permitting stated concerns to do the very thing declared thereafter to be illegal. But unfortunately, while the framers of the law did desire a wholesale house clearing, yet the State had already, through ignorance of the mischief which would ensue, granted corporation charters to certain concerns and the annulment of these charters was not possible in a single act regulating the future practice of dentistry. It is to be observed however that by creating regulatory powers over these dental corporations the Regents acquired opportunity greatly to mitigate the evil practices commonly attributed to such places.

Passing from the New York Law, which within a very few years has compelled some three hundred illegal practitioners to discontinue, and which has forced a large number of dental parlors out of business, let us discuss the need of such an act as Michigan is now contemplating.

Evils of Dental Parlor Methods.

The Dental Parlor men will probably ask, at any public hearing of this question which may be held: "Why do you object to our doing business under a trade name?" This question should be squarely met and answered, but before essaying such reply those men should in turn be asked: "Why do you wish to do business under a trade name?" The replies, if any be made, will not aim to disclose the truth but rather conceal it. The writer indeed would be most interested to hear the answers. He recalls being present at a meeting of advertising dentists when the New York bill was pending, and he asked this same question: "Why do you wish to do business under a trade name? Why not use your own name?" The man addressed hesitated a moment and then said: "Well you see, I am not a dentist!" and then hastily added "But I employ only licensed men, and they must be crackerjacks to work for me."

This brings out at once one of the prominent evils of such a system. A man, not a dentist at all, and consequently not even competent to judge the skill of the men whom he hires, may yet conduct a Dental Parlor and attract deluded patients by alluring, misleading and often impossible promises in his advertising matter.

Indeed the very trade name itself is almost invariably, in a very definite sense a deception. "The Boston Dental Parlors" probably has no Bostonian connected with it. The same is true of "The New York Dental Parlors," "The Chicago Dental Parlors" and places with like names. Since the war began, and the Red Cross has become a name to conjure with, we find "Red Cross Dental Parlors" springing up. These probably would be "closed up" were not the Red Cross officials too busy just now to attend to such affairs. Then of course we have "Painless Dental Parlors" all over our land, in every one of which painful operations are performed.

But "pain" is the great bugaboo of patients, and the word "painless" is the most psychologically attractive name that can be used. Alliteration likewise being useful we find the celebrated Dr. Parker of Brooklyn Borough, New York calling himself "Painless Parker." To give himself the right to use this name he even went so far as to have his name legally changed to "Painless Parker" by some western state. But New York declines to recognize the alteration of this name and holds that no Dr. Painless Parker has a right to a license in this state. Moreover under the law above cited it has prohibited the conducting of any Painless Parker Dental Parlors. As the law has already been tested in the Courts, Dr. Parker has yielded and has even agreed to have the state which altered his name, change it back to his original name, Randolph Parker, and any dental practice done by him in the future in New York State will be done in the name of Dr. Randolph Parker.

In a recent issue of *Printer's Ink* Dr. Parker defends his advertising methods, and it is not germane to our present subject to answer his arguments. But he says that dentistry is a business like any other business, and that men practice dentistry to make money. Unfortunately others have said the same thing. We have heard many a dentist state "I am not in business for my health." It is against men who hold such views that the Community must be safeguarded by such statutes as New York has, and Michigan soon will have. Men in dentistry should be in dentistry not for their own health perhaps, but assuredly for the health of their clients. Men who think of the emoluments first and make the best interest of the patient secondary, or even more distant, should not be in practice at all.

While it may be true, as Dr. Parker says that many, altogether too many men practice dentistry because they look upon it as a ready means of earning money, nevertheless it is also true that there are literally thousands of dentists who have no thought at all of "How much can I make out of this patient?" but who invariably approach a case with the mental thought "How much can I do to benefit this patient." Undoubtedly these men render bills for their services, but they earn their fees not as these Dental Parlor men would have legislators believe, as men in business do, by selling wares, but rather as the minister does who dispenses ministrations. And it is exactly this class of dentists who have made dentistry the profession that it is; who have done the research work, founded the schools and taught in them, thus making it possible for Dr. Parker and

others who look upon dentistry as a business, to "do business" at all.

Purpose of Trade Names.

The true and chief reason why any men desire to practice under trade names is because they do not wish to practice dentistry as a profession, but as a business. They wish to use a Trade name so that none of their employes may become sufficiently known to their clients or identified with the business to be able to "open up in the same block and steal 'trade.'"

Perhaps one of the chief reasons why trade names should be prohibited may be made clear by contrasting two pictures.

The "Get Rich Quick Dental Parlors" hires ten young licensed dentists to work for them. These men are invariably watched. It is especially noted whether or not a particular operator seems to be attracting friendships among the office patients. If so, such patients are constantly transferred to other operators. Thus the individual patient is not treated by an individual dentist, but his teeth are cared for by the "Get Rich Quick Dental Parlors." Is it to be believed that such an institution can really engage the services of competent men? Would really capable men endure such an environment? If a skillful young man, because of supposed necessity accepts temporary employment in such Dental Parlor, he makes this as temporary as possible. He saves as rapidly as he can and then goes into private practice. And one prominent purpose of the Trade Name is to handicap this really skilled man and make it impossible for him to win the esteem of patients. Hence such employe has nothing at all to work for but his salary, and it is a well known fact that such wage earners almost invariably do as little as possible for their wage.

Now let us examine the other picture. Take identically the same ten men, but set them up each in an office of his own. What will be his attitude towards any patients that may come in? For his own selfish sake, if you choose to put it so, he does the best that is within his powers for that patient. Why? Because he has no salary, and his income therefore must depend upon his power to render service. **AND HE DOES NOT USE PRINTER'S INK, HIS ONLY MEANS OF ADVERTISING HIMSELF IS THROUGH THE APPROVAL OF SATISFIED PATIENTS.**

Hence it is abundantly evident that the Community is best served by that class of dentists who serve themselves best by doing their best. Men who ask themselves "How much can I do for this patient" rather than "how much can I make out of this patient."

Many of the Trade Dental Parlor men will try to befog the issue by declaring that better dentistry is done by them than by hundreds of private dentists. But the fact is that thousands and thousands of private dentists render better service than is obtainable in any or all of the Dental Parlors in the United States. That some private dentists render poorer service than the Parlors is not to be condoned by permitting the Parlors to continue. The fact, if fact it is, merely brings to the State one more problem to solve

in the interest of Public Health, and the solution was probably hinted at editorially in these pages last month. Dentists should be compelled to register and take out a license annually. And perhaps if every five years, the dentist should be obliged to pass a new examination in order to receive a continuance of his license, it might become impossible for the Parlor men to say that any private dentist is rendering poor service.

In these days when the physicians are attributing so many diseases to the teeth, and particularly to the bad dentistry done with the sanction of a state license to practice, the duty of legislatures to pass drastic laws for conservation of Public Health is increasingly evident.

THE WORK OF THE DOCTORS.

The government recently issued a statement to show that of 71,114 wound and injury cases to soldiers, tabulated in the American expeditionary force hospitals, 85.3 per cent. recovered and returned to duty. The number of deaths was a little more than 8 per cent. Of nearly 170,000 cases of disease among soldiers, more than 93 per cent. recovered and returned to duty. All of which goes to show that the soldiers have had the best medical and surgical attention the country could give them. The final figures will show a much higher death rate among soldiers than would have been true had the army escaped the influenza, both in this country and abroad. In a general way the hospital staffs were able to combat this disease, but they were not large enough to treat such an extraordinary situation.

Some of the best surgeons and physicians in America went abroad to take care of the soldiers and many of them are still abroad. A letter received from a surgeon near the front told how he had operated standing up until he was too tired to remain in that position longer. Then, instead of seeking rest, he sat down and continued his work. He considered himself fortunate if he got two or three hours' sleep a night. This was while the fighting was on. There has been a lull now, and the medical men are catching up with their work and sleep.

One physician who was a Civil war veteran tried to enter the service but was barred because of his age. He admitted that he could not stand much hard work but he said that he might be able to save the lives of a few soldiers before he broke down. That was the spirit of the average physician and surgeon. Practically all of them made great financial and other sacrifices in order that they might do all within their power for the good of the men who fought.

THE PHYSICIAN AND THE INCOME TAX.

The present federal income tax law, however unpopular it may be, bids fair to improve the business methods of physicians, and to throw a light on the question of the doctor's income. It is too common for a physician to regard his cash receipts as his income. A physician when asked how he is getting along will say, "I took in \$6,000 last year," or

"I did \$10,000 worth of business." Practices are advertised for sale on the same basis. Yet this is not the true income any more than are the gross receipts of a grocer or a dry-goods merchant. Any business man who regarded his total cash intake for the year as his income would be considered by his business associates as headed for the bankruptcy court or the lunatic asylum. The business man knows that out of his gross receipts must come his operating expenses, insurance, depreciation, replacement of stock, and interest on investment before he can even begin to estimate his profit for his year's work. Yet prior to the passage of the present law, the great majority of physicians would have been unable to estimate their income on any other basis. Few physicians, except city specialists with offices separate from their homes, have been in the habit of separating their business from their family and personal expenses. The income tax law has made it not only necessary, but also highly profitable for us to keep books more carefully than we have heretofore done, since exemption is allowed for all legitimate professional operating expenses. This calls for definite figures as to the amount spent for office rent, attendants and maintenance, drugs and surgical dressings, maintenance of automobile or other conveyance, medical periodicals, associations and meetings, etc. In a word, it requires us to estimate the cost of carrying on our business, and the difference between this and the gross receipts. Many physicians who have heretofore been entirely ignorant of what their business was costing them have been surprised to learn that their real professional income was one-third or one-fourth what they had supposed. The income tax, in its present form at least, is a war measure, and few, if any, will regret its disappearance or material modification; yet if during the time that it is in force we learn to keep systematic records of receipts and expenditures, it will have taught a most important lesson.—*Jour. A. M.A.*, Jan. 11, 1919.

Deaths

Dr. A. B. Lennington died at his home in Maybee, Mich., Feb. 6. Dr. Lennington was a graduate of the Detroit College of Medicine and had practiced in Maybee for about eighteen years. He is survived by a widow and five children.

The death of the following physicians not members of the State Society have been reported: Dr. William Rowe of Union City, Dr. Willia J. Marks of Jackson, and Dr. A. H. Olmstead of St. Louis, Mich.

Correspondence

December 20, 1918.

To the Physicians of the Country:

There is danger of an alarming spread of venereal disease during the reconstruction period. Prior to demobilization, the tense morale of the fighting forces is bound to relax. When mustered out, the men will return to conditions in civilian life which have been responsible for venereal disease. Prompt measures must be taken to meet the situation.

Among the striking things disclosed by Army statistics is the value of proper methods of control as developed in the treatment of venereal cases in the Service. The same methods of control will prove equally effective when applied to venereal cases among civilians.

The United States Public Health Service, therefore, appeals to every member of the medical profession to co-operate in accordance with the enclosed bulletin. You are asked to give assurance of your support by signing and returning the post card. Subsequently, each physician enlisted in this movement will receive a copy of the revised "Manual of Treatment of Venereal Disease," prepared by the United States Public Health Service in accordance with the latest methods of treating venereal disease in the Army, and distributed in co-operation with the State Board of Health.

If you have not replied you should do so at once.

Respectfully,

RUPERT BLUE, Surgeon General.

February 6th, 1919.

Dr. F. C. Warnshuis,
Grand Rapids, Mich.

Dear Doctor Warnshuis:

I am making a collection of urological specimens and am writing you along with a number of my friends asking for aid. If you have anything in the way of a specimen or specimens, either normal or abnormal, that you don't in particular need, Supra Renal Gland, Kidney, Bladder, Ureter, Prostate or Urethra, I would thank you for the same. I am looking for specimens from the lower animals as well as the human.

I shall gladly meet any expense incurred.

Thanking you for any assistance that you can or would care to give, I am,

Yours fraternally,

G. V. BROWN, M.D.

919 Smith Bldg., Detroit.

P. S.—If a pathological report is desired on any specimen we would be pleased to furnish you with such gratis.

Harrisburg, Pa., December 23, 1918.

Dr. F. C. Warnshuis,
Grand Rapids, Mich.

My dear Sir:

Will you kindly call attention in the next issue of your *Journal* to the fact that Dr. Francis D. Patterson, Chief, Division of Industrial Hygiene and Engineering, Department of Labor and Industry, Harrisburg, Pa., is desirous of obtaining a complete

list of all physicians engaged in the practice of industrial medicine?

It has been the practice of this Department to hold semi-annual conferences of Industrial Physicians and Surgeons for several years. These Conferences are well attended, and a great deal of valuable matter is presented in the discussions. In order to reach all physicians interested it is desirable to have their names upon our mailing list. The next Conference will be held early in 1919, and it is, therefore, essential that the names and addresses of all Industrial Physicians and Surgeons be in my hands as soon as possible after January 1st.

Expressing to you my deep appreciation for your courtesy in calling this matter to the attention of your readers, I am

Very sincerely yours,

FRANCIS D. PATTERSON,
Chief, Division of Hygiene.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

THE STUDENTS' LIBRARY ASSOCIATION of the Middlesex College of Medicine and Surgery solicits donations of Medical and Scientific libraries, Medical books, bound and unbound volumes of back numbers of Medical and Scientific Magazines, and funds for current American and foreign Medical Journals. Jennie Hraba, Class '21, Association Secretary University of Massachusetts School for Medicine, East Cambridge, Mass.

Dr. Henry P. Cook, a first lieutenant in the U. S. Army medical corps, who entered army service more than a year ago and who served with the British army in France and Belgium, has received his honorable discharge and has returned to Flint to resume the practice of medicine. Dr. Cook's services were loaned to the British army by the American army and he spent many months with the British soldiers in the field, seeing much of the fighting and having some remarkable war experiences.

Captain Henry Vaughan, former deputy health commissioner, now with the army sanitary corps, has been appointed health commissioner at Detroit succeeding Dr. James W. Inches, new police commissioner.

Dr. Leo C. Donnelly recently discharged from the orthopaedic section of the Medical Corps has moved his office from 727 Jefferson avenue, East, Detroit, Mich., to 607 Kresge Medical Bldg., Detroit, and will limit his practice to orthopaedic surgery.

Dr. R. F. Miller has been appointed city physician at Adrian, Mich. For the last four years, or since the adoption of the present charter, there has been no such officer at Adrian.

Lieut. R. L. Clark, 207 Forest avenue, W., Detroit, Mich., was honorably discharged from the medical department of Aeronautics at Selfridge Field, Mt. Clemens, Mich., December 21st, 1918.

Col. Burt R. Shurly of Detroit, Mich., head of Base Hospital No. 36, a purely Michigan organization, arrived from overseas Monday, Feb. 17th.

Dr. Reuben Peterson has received his discharge as major in the army and will resume his practice, at Ann Arbor, Michigan.

It has been announced that Dr. A. L. Swinton of Ontonagon will make his home in Marquette in the future and will be associated with Dr. S. M. Janes.

Dr. Albert S. Barr of Greenville has returned home from France after several month's service.

Word has been received that Dr. Mabel Elliott of Benton Harbor is on her way to Asia Minor.

On account of ill health, Dr. A. M. Francis is giving up his practice at Port Austin and is moving to Saginaw leaving Port Austin without a physician.

Dr. W. G. Bird of Flint, Mich., Counselor of the 6th District, left Monday, February 17th, for a months vacation in Florida.

Dr. Francis Rutherford of Grand Rapids is spending a few months in Altadena, California.

Lieut. R. J. Walker, formerly stationed at Hoboken, New Jersey, has resumed his practice at Saugatuck, Mich., having received his discharge a short time ago.

Dr. E. M. Ling, formerly of Merrill, is now located at Hemlock, Mich.

Dr. W. T. Morrison is now located at Albion, Mich. The doctor's former address was Pigeon, Mich.

Dr. F. C. Witter, Petoskey, Counselor of the 13th District is now located in the David Whitney Bldg., Detroit, Mich.

Dr. W. A. Royer, of Mendon, Mich., is now located at Battle Creek.

Major Dan H. Eaton has landed in America and is expected in Kalamazoo soon.

Dr. E. D. Osmun has returned from service in the army and has resumed his practice in Allegan.

Dr. G. T. Britton of Kalamazoo is ill in Borgess Hospital.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

ALPENA COUNTY

The Alpena County Medical Society met Thursday evening, Jan. 30, 1919, at the New Alpena hotel. After dinner the following officers were elected for the following year:

President—Otto Bertram.

Vice President—Dr. George Lister.

Secretary-Treasurer—Dr. Leo Secrist.

Dr. Dunlap was appointed delegate for the state meeting and Dr. E. E. McKnight, counselor.

MUSKEGON COUNTY

At the annual meeting of the Muskegon County Medical Society the following officers were elected: President—F. B. Marshall, Muskegon.

Vice-President—Dr. A. B. Poppen, Muskegon.

Secretary-Treasurer—Dr. J. T. Cramer, Muskegon.

NEWAYGO COUNTY

At the annual meeting of the Newaygo County Medical Society held at Fremont, Michigan, January 14, 1919 the following officers were elected for the ensuing year.

President—Dr. Arthur C. Thompsett, Hesperia.

Vice-Pres.—Dr. N. DeHaas, Fremont.

Secretary-Treas.—Dr. W. H. Barnum, Fremont.

Delegate to State Medical Society—Dr. Geerling, Fremont.

Alternate—Dr. Chas. B. Long.

Medico-Legal—Dr. N. DeHaas.

No further business appearing the meeting adjourned.

W. H. BARNUM, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

The regular meeting of the Kalamazoo Academy of Medicine occurred Jan. 28th, 1919.

There was a short discussion of the pending Medical Legislation and of the support that was being given it.

The scientific program consisted of papers entitled:

"Complete Muscle Operation in Primary and Secondary Perineorrhaphy." (Illustrated by case reports and lantern slides.) By Dr. C. E. Boys, Kalamazoo.

"Gastro Intestinal Motility." (Illustrated with

lantern slides). By Dr. J. G. Van Zwaluwenburg, Ann Arbor.

B. A. SHEPARD, Secretary.

The regular meeting of the Kalamazoo Academy of Medicine occurred Tuesday, February 11, 1919, with the President, F. C. Penoyer, in the chair.

Dr. G. F. Young, chairman of the Illegal Practice Committee discussed some of the phases of the questions which confront us regarding illegal practice at the present time. He showed how the present laws seemed to be inadequate to cover the situation.

Letter from the State Secretary was read, in which he asked for an appropriation to help bear the expense of the pictorial Victory number of the *State Journal*. The Academy voted \$50 toward the expense of this issue of the *State Journal*.

The scientific program consisted of papers entitled:

1. Report of the Work Done for the Michigan State Board of Health on the Mental Condition of Cases Under Treatment for Venereal Disease. By Dr. Geo. F. Inch, Kalamazoo. (This paper with discussion sent in for publication.)
2. Venereal Treatment of State Cases at Fairmount Hospital. By Dr. Walter den Bleyker. (This paper with discussion sent in for publication.)
3. Observation on Work of the Medical Department of the Army in France. By Lieut. Col. James T. Case, Battle Creek.

OUR HONOR ROLL.

County Secretaries are requested to report the names of all members in the Service.

Allegan County.

Dr. Elmer D. Osmun, Allegan; Dr. Robert P. Stark, Allegan; Dr. Howard W. Stuch, Allegan; Dr. Orrin D. Hudnutt, Otsego; Dr. Willard R. Vaughan, Plainwell; Dr. Robert J. Walker, Saugatuck.

Alpena County.

Dr. Clarence M. Williams, Alpena.

Antrim County.

Dr. Bernard J. Beuker, Atwood; Dr. Edward W. Vis, Central Lake; Dr. Versile M. Gates, Eastport; Dr. Louis N. Yerkes, Elk Rapids; Dr. Worth W. Walton, Mancelona.

Baraga County.

Dr. Frank F. Marshall, Pequaming.

Barry County.

Dr. Maurice J. Cross, Delton; Dr. Birge C. Swift, Middleville.

Bay County.

Dr. F. S. Baird, Bay City; Dr. F. W. Brown, Bay City; Dr. S. L. Ballard, Auburn; Dr. C. V. Crane, Tawas City; Dr. V. H. Dumond, Bay City; Dr. E. Goodwin, Bay City; Dr. E. S. Huckin,

Bay City; Dr. H. P. Lawrence, Pinconning; Dr. R. C. Perkins, Bay City; Dr. F. H. Randall, Bay City; Dr. R. E. Scrafford, Bay City; Dr. M. R. Slattery, Bay City; Dr. P. R. Urmston, Bay City.

Benzie County.

Dr. C. P. Doyle, Frankfort.

Berrien County.

Dr. Louis A. King, Baroda; Dr. Myron G. Becker, Jr., Benton Harbor; Dr. Carl A. Mitchell, Benton Harbor; Dr. Warren P. Morrill, Benton Harbor; Dr. Burton L. Stevenson, Benton Harbor; Dr. David Littlejohn, Bridgeman; Dr. Spence Van Barnum, Coloma.

Branch County.

Dr. W. J. Bien, Union City; Dr. W. A. Griffith, Coldwater.

Calhoun County.

Dr. J. T. Case, Battle Creek; Dr. E. M. Chauncey, Albion; Dr. James Elliott, Battle Creek; Dr. R. V. Gallagher, Battle Creek; Dr. J. G. Gage, Battle Creek; Dr. W. Haughey, Battle Creek; Dr. G. C. Hafford, Albion; Dr. A. A. Hoyt, Battle Creek; Dr. J. J. Holes, Battle Creek; Dr. C. W. Heald, Battle Creek; Dr. T. Kolvoord, Battle Creek; Dr. A. C. McCurdy*, Battle Creek; Dr. W. N. Putman, Battle Creek; Dr. A. H. Ross, Battle Creek; Dr. A. J. Read, Battle Creek; Dr. R. D. Sleight, Battle Creek; Dr. R. C. Stone, Battle Creek; Dr. L. H. Tower, Battle Creek; Dr. E. Van Camp, Athens; Dr. C. G. Wencke, Battle Creek.

*Died in France, November 28th, 1918.

Cass County.

Dr. Edgar C. Dunning, Cassopolis; Dr. Chas. M. Harmon, Cassopolis; Dr. James H. Kelsey, Cassopolis; Dr. Walter S. Sharpe, Dowagiac; Dr. Ralph P. Jones, Marcellus.

Charlevoix County.

Dr. Allan M. Wilkinson, Charlevoix; Dr. Hugh W. Dicken, East Jordan.

Cheboygan County.

Dr. Arthur J. Sahs, Cheboygan; Dr. Lyle D. McMillan, Indian River; Dr. Allen C. Tiffany, Mackinaw; Dr. A. McKillop, Wolverine.

Chippewa-Luce-Mackinac County.

Dr. F. C. Bandy, Newberry; Dr. M. V. Gates, Eastport; Dr. R. D. Scott, Rudyard; Dr. T. R. Whitmarsh, Ypsilanti; Dr. R. C. Winslow, Sault Ste. Marie; Dr. I. V. Yale, Sault Ste. Marie.

Clare County.

Dr. Arthur R. Mussell, Clare; Dr. Burton J. Sanford, Clare.

Clinton County.

Dr. M. S. Gregory, Eureka; Dr. W. A. Scott, St. Johns; Dr. D. H. Silsby, St. Johns; Dr. W. M. Taylor, Ovid.

Delta County.

Dr. J. L. Conover, Rapid River; Dr. H. W. Long, Escanaba; Dr. J. J. Walch, Escanaba.

Dickinson County

Dr. Robert E. Hayes, Channing; Dr. Gustavus W. Moll, Foster City; Dr. Samuel E. Cruse, Iron Mountain.

Eaton County.

Dr. Stanley A. Stealy, Charlotte; Dr. Wells B. Fillinger, Grand Ledge; Dr. Clyde L. D. McLaughlin, Vermontville.

Genesee County.

Dr. G. H. Bahlman, Flint; Dr. C. S. Ballard, Flint; Dr. M. W. Clift, Flint; Dr. C. P. Clark, Flint; Dr. Henry Cook, Flint; Dr. V. H. DeSomaskeoy, Flint; Dr. J. W. Evers, Flint; Dr. G. R. Georing, Flint; Dr. B. Goodfellow, Clio; Dr. J. N. Houton, Flushing; Dr. J. Houston, Swartz Creek; Dr. J. G. R. Manwaring, Flint; Dr. F. B. Miner, Flint; Dr. R. S. Morrish, Flint; Dr. W. H. Marshall, Flint; Dr. J. W. Orr, Flint; Dr. A. T. Pauell, Flint; Dr. K. G. Pratt, Flint; Dr. F. E. Reeder, Flint; Dr. W. C. Reid, Grand Blanc; Dr. A. J. Reynolds, Flint; Dr. E. C. Rumer, Flint; Dr. H. E. Randall, Flint; Dr. F. A. Roberts, Flint; Dr. B. R. Sleeman, Linden; Dr. W. H. Winchester, Flint; Dr. L. S. Willoughby, Flint.

Gogebic County.

Dr. C. D. Collins, Ironwood; Dr. G. J. Curry, Watersmeet; Dr. E. B. Stebbins, Ironwood.

Grand Traverse-Leelanau County.

Dr. G. A. Holliday, Traverse City; Dr. G. M. Johnson, Traverse City; Dr. W. D. Mueller, Traverse City; Dr. E. L. Thirlby, Traverse City; Dr. L. N. Yerkes, Elk Rapids.

Gratiot-Isabella-Clare County.

Dr. Ralph E. Dawson, Blanchard; Dr. C. B. Gardner, Alma; Dr. C. D. Pullen, Mt. Pleasant; Dr. A. R. Mussell, Clare; Dr. B. J. Sanford, Clare; Dr. T. P. Vanderzalm, Blanchard; Dr. M. C. Hubbard, Vestaburg.

Hillsdale County.

Dr. W. R. Atterbury, Litchfield; Dr. T. H. E. Bell, Reading; Dr. B. F. Green, Hillsdale; Dr. E. A. Martindale, Hillsdale; Dr. H. C. Miller, Hillsdale; Dr. I. J. Stoner, Jonesville.

Houghton County.

Dr. J. F. Barton, Calumet; Dr. R. B. Harkness, Houghton; Dr. H. M. Joy, Calumet; Dr. N. S.

MacDonald, Houghton; Dr. P. D. MacNaughton, Calumet; Dr. J. D. McKinnon, Calumet; Dr. F. F. Marshall Pequaming; Dr. V. L. Oler, Kearsarge; Dr. B. H. Olmsted, Calumet; Dr. L. M. Power, Hancock; Dr. James Rhines, Laurium; Dr. D. D. Todd, Adrian; Dr. A. R. Tucker, Mohawk; Dr. L. E. Werry, Calumet.

Huron County.

Dr. A. E. W. Yale, Pigeon.

Ingham County.

Dr. H. S. Bartholomew, Lansing; Dr. C. L. Barber, Lansing; Dr. M. L. Cushman, Lansing; Dr. F. J. Drolett, Lansing; Dr. Clara Davis, Lansing; Dr. C. W. Ellis, Lansing; Dr. L. A. Humphrey, Lansing; Dr. M. L. Holm, Lansing; Dr. H. B. Knapp, Lansing; Dr. H. W. Landon, Lansing; Dr. R. R. McCrumb, Lansing; Dr. C. H. Murphy, Lansing; Dr. H. A. Miller, Lansing; Dr. A. E. Owen, Lansing; Dr. R. A. Pinkham, Lansing; Dr. J. G. Rulison, Lansing; Dr. M. Shaw, Lansing.

Ionia County.

Dr. Verner H. Kitson, Ionia; Dr. Julius H. Powers, Ionia; Dr. Perry C. Robertson, Ionia; Dr. Frederick L. Morse, Lake Odessa; Dr. Nelson McLaughlin, Lake Odessa.

Jackson County.

Dr. W. B. Anderson, Jackson; Dr. H. D. Brown, Jackson; Dr. R. Cooley, Jackson; Dr. C. R. Dengler, Jackson; Dr. C. E. DeMay, Jackson; Dr. W. H. Enders, Jackson; Dr. H. L. Hurley, Jackson; Dr. Thos. Hackett, Jackson; Dr. R. G. Hendricks, Jackson; Dr. W. Lake, Grass Lake; Dr. R. H. Leece, Munith; Dr. D. B. Marsh, Jackson; Dr. J. J. McCormick, Jackson; Dr. C. D. Munro, Jackson; Dr. Fred Main, Jackson; Dr. J. A. McQuillan*, Jackson; Dr. J. O'Mara, Jackson; Dr. E. S. Peterson, Jackson; Dr. G. Seybold, Jackson; Dr. G. E. Winter, Jackson.

*Killed in France, October 26, 1918.

Kalamazoo Academy of Medicine.

Dr. R. U. Adams, Kalamazoo; Dr. Ralph E. Balch, Kalamazoo; Dr. W. Collins, Kalamazoo; Dr. O. H. Clark, Kalamazoo; Dr. L. J. Crum, Kalamazoo; Dr. A. E. Henwood, Kalamazoo; Dr. W. H. Kenzie, Richland; Dr. R. G. Leland, Kalamazoo; Dr. R. A. Morter, Kalamazoo; Dr. N. W. Pinto, Kalamazoo; Dr. R. E. Weeks, Augusta; Dr. G. F. Willey, Kalamazoo; Dr. F. S. Collier, Vicksburg; Dr. D. H. Eaton, Kalamazoo; Dr. J. F. Berry, Kalamazoo; Dr. D. W. Crankshaw, Lawrence; Dr. N. D. Murphy, Bangor; Dr. John Stewart, Hartford; Dr. H. W. Wiley, South Haven; Dr. L. E. Wescott, Gobleville; Dr. W. R. Vaughn, Plainwell; Dr. O. D. Hudnutt, Otsego; Dr. E. D. Osmun, Allegan; Dr. R. P. Stark, Alle-

gan, Dr. H. Stuck, Allegan; Dr. H. Whitney, Otsego; Dr. W. A. Singleton, Hickory Corners.

Kent County.

Dr. H. J. Beel, Grand Rapids; Dr. H. Blackburn, Grand Rapids; Dr. R. C. Breece, Ada; Dr. J. S. Brotherhood, Grand Rapids; Dr. F. A. Boet, Comstock Park; Dr. A. M. Campbell, Grand Rapids; Dr. L. H. Chamberlin, Grand Rapids; Dr. J. R. Coryell, Grand Rapids; Dr. B. R. Corbus, Grand Rapids; Dr. C. W. Deaver, Grand Rapids; Dr. P. J. DePree, Grand Rapids; Dr. H. W. Dingman, Grand Rapids; Dr. J. C. Foshee, Grand Rapids; Dr. C. M. Freeman, Ada; Dr. T. D. Gordon, Grand Rapids; Dr. H. A. Grube, Grand Rapids; Dr. J. T. Hodggen, Grand Rapids; Dr. J. N. Holcomb, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. C. Kenning, Grand Rapids; Dr. F. C. Kinsey, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. H. Muller, Grand Rapids; Dr. A. M. Martin, Grand Rapids; Dr. A. A. McNabb, Grand Rapids; Dr. A. G. McPherson, Grand Rapids; Dr. L. E. Sevey, Grand Rapids; Dr. R. R. Smith, Grand Rapids; Dr. A. B. Smith, Grand Rapids; Dr. F. N. Smith, Grand Rapids; Dr. R. E. Toms, Grand Rapids; Dr. R. T. Urquhart, Grand Rapids; Dr. P. Ver Meulen, Grand Rapids; Dr. W. E. Wilson, Grand Rapids; Dr. S. M. Wells, Grand Rapids; Dr. J. B. Whinnery, Grand Rapids; Dr. F. C. Warnshuis, Grand Rapids.

Livingston County.

Dr. Vern N. Richesen, Howell; Dr. William J. Bynearson, Parshallville.

Macomb County.

Dr. Henry G. Berry, Mt. Clemens; Dr. Harold A. Kirkham, Mt. Clemens; Dr. Charles A. Martin, Mt. Clemens; Dr. Harry F. Taylor, Mt. Clemens; Dr. Russell W. Ullrich, Mt. Clemens; Dr. Arthur J. Warren, Mt. Clemens; Dr. Robert M. Greenshields, Romeo; Dr. Edgar J. Miller, Romeo; Dr. Milton C. Smith, Romeo; Dr. C. B. Lockwood, Washington.

Manistee County.

Dr. Lee Lewis, Manistee; Dr. A. A. McKay, Manistee; Dr. H. McMullen, Manistee; Dr. W. Norconk, Bear Lake; Dr. L. Ramsdell, Manistee.

Marquette County.

Dr. I. Abrahanson, Negaunee; Dr. A. V. Braden, Ishpeming; Dr. H. T. Carriel, Marquette; Dr. W. B. Lunn, Marquette; Dr. C. J. Larson, Negaunee; Dr. I. Sicotte, Michigamme; Dr. L. L. Youngquist, Marquette.

Mecosta County.

Dr. Wm. T. Dodge, Big Rapids; Dr. Rolla G. Karshner, Big Rapids; Dr. Glen D. Ransom, Big Rapids; Dr. Gordon H. Yeo, Big Rapids.

Menominee County.

Dr. C. R. Elwood, Menominee; Dr. W. R. Hicks, Menominee; Dr. E. V. McComb, Menominee; Dr. H. T. Sethney, Menominee.

Midland County.

Dr. Chas. V. High, Sr., Coleman; Dr. John E. Heslop, Edenville; Dr. James H. Johnson, Midland; Dr. Rene J. St. Louis, Midland.

Monroe County.

Dr. Hugh R. Hildebrant, Dundee; Dr. Herbert W. Landon, Monroe; Dr. Frederick C. Thiede, Monroe.

Montcalm County.

Dr. Don V. Hargrove, Carson City; Dr. Albert S. Barr, Greenville; Dr. Albert J. Bower, Greenville; Dr. Noble W. Miller, Howard City; Dr. Lee E. Kelsey, Lakeview; Dr. Mortimer E. Danforth, Stanton.

Muskegon County.

Dr. C. M. Colignon, Muskegon; Dr. H. S. Cole, Whitehall; Dr. B. R. Eastman, Muskegon; Dr. W. L. Herick, Whitehall; Dr. F. W. Hannum, Muskegon; Dr. V. S. Laurin, Muskegon; Dr. F. N. Morford, Muskegon; Dr. E. S. Thornton, Muskegon.

Oakland County.

Dr. F. S. Bachelder, Pontiac; Dr. S. A. Butler, Pontiac; Dr. L. G. Campbell, Birmingham; Dr. L. A. Farnham, Pontiac; Dr. F. D. German, Franklin; Dr. G. W. MacKinnon, Oxford; Dr. E. E. Orton, Pontiac; Dr. G. P. Raynale, Birmingham.

Oceana County.

Dr. C. Day, Clinton; Dr. G. F. Lamb, Pentwater.

Ontonagon County.

Dr. E. J. Evans, Rockland; Dr. E. A. Florentine, Ewen; Dr. J. L. Kelliher, Phoenix; Dr. E. A. Linger, Rockland; Dr. D. L. Lutes, Victoria.

Ottawa County.

Dr. John J. Miller, Berlin; Dr. Harry Lieffers, Coopersville; Dr. Cornelius J. Addison, Grand Haven; Dr. George H. Thomas, Holland; Dr. William Westrate, Holland; Dr. Clayton A. White, Nunica; Dr. Joe DePree, Zeeland; Dr. W. C. Kools, Holland.

Saginaw County.

Dr. Harvey B. McCrory, Birch Run; Dr. George W. Peart, Burt; Dr. Geo. L. Alger, Saginaw; Dr. James D. Bruce, Saginaw; Dr. Benj. F. A. Crane, Saginaw; Dr. Walter A. DeFoe, Saginaw; Dr. Wm. F. English, Saginaw; Dr. Bernhard Friedlaender, Saginaw; Dr. Leon B. Harris, Saginaw; Dr. Matthew Kollig, Saginaw; Dr. Alexander R. McKinney, Saginaw; Dr. Henry J. Meyer, Sag-

inaw; Dr. Wm. L. Miller, Saginaw; Dr. James L. Passmore, Saginaw; Dr. Norman J. Pike, Saginaw; Dr. Emil P. W. Richter, Saginaw; Dr. Bert B. Rowe, Saginaw; Dr. John T. Sample, Saginaw; Dr. Roy S. Watson, Saginaw; Dr. Arthur E. Leitch, Saginaw.

Sanilac County.

Dr. H. H. Angle, Snover; Dr. J. C. Webster, Peck; Dr. C. G. Woodhull, Decker.

Shiawassee County.

Dr. James A. Rowley, Durand; Dr. Hermon E. Boice, Byron; Dr. Robt. R. Fox, Byron; Dr. Thos. G. Amos, Henderson; Dr. Glenn T. Soule, Henderson; Dr. Alfred F. Arnold, Owosso; Dr. James J. Haviland, Owosso; Dr. Harold A. Hume, Owosso; Dr. Jesse O. Parker, Owosso; Dr. Geo. P. Sackrider, Owosso; Dr. Egerton T. Wilson, Owosso; Dr. William H. Dunham, Shaftsbury; Dr. Arden N. Howe, Vernon.

St. Clair County.

Dr. I. P. Bowden, Port Huron; Dr. F. V. Carney, St. Clair; Dr. G. M. Kesl, Port Huron; Dr. A. J. MacKenzie, Port Huron; Dr. D. W. Patterson, Blain; Dr. G. Waters, Memphis; Dr. W. G. Wight, Yale.

St. Joseph County.

Dr. John J. Kelley, Burr Oak; Dr. Wm. E. Doran, Colon; Dr. Arthur W. Scidmore, Three Rivers.

Tuscola County.

Dr. F. P. Bender, Caro; Dr. W. C. Garvin, Milington

Washtenaw County.

Dr. James F. Breakey, Ann Arbor; Dr. H. B. Britton, Ypsilanti; Dr. R. B. Canfield, Ann Arbor; Dr. H. W. Emerson, Ann Arbor; Dr. N. B. Foster, Ann Arbor; Dr. C. George, Jr., Ann Arbor; Dr. H. Malagan, Ann Arbor; Dr. Reuben Peterson, Ann Arbor; Dr. V. C. Vaughan, Ann Arbor; Dr. U. J. Wile, Ann Arbor.

Wayne County.

Dr. De Witt C. Adams; Dr. Edward J. Agnelly; Dr. Herman F. Albrecht; Dr. Frank C. Anderson; Dr. Warren L. Babcock; Dr. Frederick W. Baeslack; Dr. Max Ballin; Dr. Don C. Bartholomew; Dr. Charles Barton; Dr. Robert J. Baskerville; Dr. Robert Beattie; Dr. Harold A. Beck; Dr. Clarence H. Belknap; Dr. William O. Benjamin; Dr. Zina B. Bennett; Dr. Harry S. Berman; Dr. Isadore I. Bittker; Dr. Fred H. Blanchard; Dr. Jacob R. Bolasny; Dr. Edmund W. Bolio; Dr. Ralph H. Bookmyer; Dr. Richard F. Boonstra; Dr. Henry R. Boyes; Dr. Frank B. Broderick; Dr. Clark D. Brooks; Dr. William H. Browne;

Dr. Wm. S. Brownell; Dr. Bruno B. Brunke; Dr. John D. Buck; Dr. Frederick G. Buesser; Dr. Glenn A. Bulson; Dr. John K. Burns, Jr.; Dr. Lowell M. Bush; Dr. Thos. P. Camelon; Dr. Geo. H. Campau; Dr. Duncan A. Campbell; Dr. Clarence Candler; Dr. Edward K. Carmichael; Dr. Glenn B. Carpenter; Dr. James G. Carr; Dr. Henry R. Carstens; Dr. John H. Carstens; Dr. Albert E. Catherwood; Dr. Aaron Lee Chapman; Dr. Clarence A. Christensen; Dr. Harold F. Closz; Dr. Don A. Cohoe; Dr. Homer C. Collins; Dr. Lannes I. Condit; Dr. Ray Connon; Dr. Bernard F. Corbett; Dr. Langdon T. Crane; Dr. Ernest K. Cullen; Dr. Hampton P. Cushman; Dr. Samuel S. Danziger; Dr. Milton A. Darling; Dr. Jos. L. Desrosiers; Dr. Harry F. Dibble; Dr. John C. Dodds; Dr. Daniel R. Donovan; Dr. Ira G. Downer; Dr. David B. Downing; Dr. George A. Drescher; Dr. Leo J. Dretska; Dr. Adolph E. Dreyer; Dr. Charles F. DuBois; Dr. Frederick Eakins; Dr. Clarence H. Eisman; Dr. Rollan R. Ensor; Dr. Arthur W. Erckitz; Dr. George E. Fay; Dr. Ray L. Fellers; Dr. Charles J. Foley; Dr. Antonio J. Font; Dr. Walter D. Ford; Dr. Henry E. Fraser; Dr. George E. Frothingham; Dr. Claude B. Gaines; Dr. August E. Gehrke; Dr. Isaac S. Gellert; Dr. Wm. S. Gonne; Dr. John W. Gordon; Dr. James Gostanian; Dr. Raymond S. Goux; Dr. Wm. Gramley; Dr. Hunter L. Gregory; Dr. Thos. R. K. Gruber; Dr. Samuel C. Gurney; Dr. E. W. Haass; Dr. Carl Hanna; Dr. Beverly D. Harison; Dr. Winfred B. Harm; Dr. Albert E. Harris; Dr. Earl R. Harris; Dr. John G. Harvey; Dr. James W. Hawkins; Dr. Austin W. Heine; Dr. Wm. Henderson; Dr. Preston M. Hickey; Dr. Louis J. Hirschman; Dr. Geo. Hoffmeister; Dr. Arthur D. Holmes; Dr. Lawrence N. Host; Dr. Abraham W. Hudson; Dr. Harold S. Hulbert; Dr. Leroy W. Hull; Dr. Willard H. Hutchins; Dr. James W. Inches; Dr. Harry H. Jackson; Dr. Byron H. Jenne; Dr. Alpheus F. Jennings; Dr. Charles G. Jennings; Dr. Nathan J. Jessup; Dr. Morrell M. Jones; Dr. Ladislaus R. Kaminski; Dr. Zeno L. Kaminski; Dr. Wm. J. Kane; Dr. John F. Kelly; Dr. Johnston B. Kennedy; Dr. Wm. Y. Kennedy; Dr. Frederick C. Kidner; Dr. Edw. D. King; Dr. Paul A. Klebba; Dr. Geo. L. Koessler; Dr. Abraham Kovinsky; Dr. Albert H. Krohn; Dr. Duffield R. Kruger; Dr. Alfred D. LaFerte; Dr. Rudolph H. Lambert; Dr. Carl N. Larsen; Dr. Bror H. Larsson; Dr. A. F. J. Lecklider; Dr. Ernest C. Lee; Dr. Henry R. Leibinger; Dr. Daniel J. Leithauser; Dr. Alfred E. Lemon; Dr. Paul H. Lippold; Dr. Nelson MacArthur; Dr. Robert B. Macduff; Dr. Frank B. MacMullen; Dr. Otis B. Mallow; Dr. Vincent S. Mancuso; Dr. Walter W.

Manton; Dr. Thos. B. Marsden; Dr. Robert M. Martin; Dr. James D. Matthews; Dr. Kenneth F. Maxey; Dr. Emil V. Mayer; Dr. Willard D. Mayer; Dr. Frederick McAfee; Dr. Arthur McArthur; Dr. James H. McCall; Dr. Wm. R. McClure; Dr. Carey P. McCord; Dr. Crawford W. McCormick; Dr. Theodore A. McGraw, Jr.; Dr. George E. McKean; Dr. Angus McLean; Dr. H. O. McMahon; Dr. Charles H. Merrill; Dr. Ellsworth P. Mills; Dr. Robert C. Moehlig; Dr. Stephen G. Mollica; Dr. Harold L. Morris; Dr. Walter Muellenhagen; Dr. Charles R. Mueller, Jr.; Dr. Thos. F. Mullen; Dr. Arthur J. Neumann; Dr. Frederick H. Newberry; Dr. Arthur W. Newitt; Dr. Harry J. Noble; Dr. Ralph A. Norris; Dr. Wm. A. O'Brien; Dr. Harold F. Ohrt; Dr. Geo. V. Oil; Dr. Robert W. G. Owen; Dr. Leon E. Pangburn; Dr. W. R. Parker; Dr. G. C. Penberthy; Dr. O. W. Pickard; Dr. Lyman J. Pinney; Dr. George E. Potter; Dr. Presley L. Pound; Dr. Wm. H. Price; Dr. Wynand V. Pyle; Dr. O. M. Randall; Dr. Claude B. Ray; Dr. Harry W. Reed; Dr. Heinrich A. Reye; Dr. James M. Robb; Dr. Paul C. Rohde; Dr. Herman H. Runo; Dr. Frank L. Ryerson; Dr. Homer E. Safford; Dr. Wm. G. Schlegelmilch; Dr. Harry B. Schmidt; Dr. Ernest C. Schultz; Dr. James B. Seeley; Dr. Ward F. Seeley; Dr. A. M. Shafer; Dr. Reed A. Shankwiler; Dr. Lyle O. Shaw; Dr. Harold K. Shawan; Dr. Wm. L. Sherman; Dr. Burt R. Shurley; Dr. Arthur R. Smeck; Dr. A. L. Smith; Dr. Clarence V. Smith; Dr. Eugene Smith, Jr.; Dr. Frank H. Smith; Dr. Frederick J. Smith; Dr. T. H. Smith; Dr. Clarence Stefanski; Dr. Frank T. F. Stephenson; Dr. Alexander M. Stirling; Dr. Lindley H. Stout; Dr. Luther H. Stout; Dr. Frank Suggs; Dr. Hugh A. Sullivan; Dr. Angus P. Sutherland; Dr. Rolfe Tainter; Dr. Griffith A. Thomas; Dr. Arthur R. Timme; Dr. Charles L. Tomsu; Dr. Harry N. Torrey; Dr. Emmett C. Troxell; Dr. Arthur Turner; Dr. Clyde R. Van Gundy; Dr. James A. Van Horne; Dr. George Van Rhee; Dr. Colin C. Vardan; Dr. John W. Vaughan; Dr. Victor C. Vaughan, Jr.; Dr. Milton D. Vokes; Dr. Frank B. Walker; Dr. Jos. A. Wall; Dr. Charles R. Walsh; Dr. Frank N. Wilson; Dr. George W. Wilson; Dr. Robert A. Wollenberg; Dr. Grover C. Wood; Dr. Harry B. Yoh; Dr. John C. Young, Detroit. Joseph H. Chance, Eloise; Dr. Robert H. Carmichael, Hamtramck; Dr. Martin W. Caveney, Highland Park; Dr. Geo. S. Foden, Highland Park; Dr. Richard H. Juers, Highland Park; Dr. Thomas B. Henry, Northville; Dr. Lewis N. Tupper, Redford; Dr. Roy Du B. Tupper, Redford; Dr. Howard B. Kinyon, Trenton; Dr. Romeo H. Earle, Wayne; Dr. Glen L. Coan, Wyandotte; Dr. Wm. H. Homer, Wyandotte; Dr. Joseph G. Knapp, Wyandotte; Dr. John N. Bell, Detroit.

Book Reviews

SURGICAL TREATMENT. A Practical Treatise on the Therapy of Surgical Diseases for the use of Practitioners and Students of Surgery. By James Peter Warbasse, M.D., formerly attending surgeon to the Methodist Episcopal Hospital, Brooklyn, N. Y. In 3 large octavo volumes, and separate Desk Index Volume. Volume II contains 829 pages with 761 illustrations. Philadelphia and London: W. B. Saunders Company. 1918. Per set (three volumes and the index volume); cloth, \$30.00.

Volume two carries out the systematic effort at simplicity of volume one. The author has succeeded well in including up to date procedures. He has also added a valuable work on regional technique to the library of the surgeon. Some of the illustrations as might be expected are rather diagrammatic, but for the younger surgeon and surgical student this is probably an advantage rather than otherwise.

THE SURGICAL CLINICS OF CHICAGO. Volume 2, Number 6, October, 1918. Octavo of 193 pages with 87 illustrations. Published bi-monthly by The W. B. Saunders Company, Philadelphia and London.

This number gives many helpful suggestions to the general practitioner and specialist. The Presbyterian Hospital Clinics contain some rare and many common surgical cases. "The clinical problems relating to the faucial Tonsils," by Shambaugh shows a conservative point at times and at other times a radical point. The tonsil will always be a disputed ground and must depend upon the specialist himself. It has been handled so nicely that the doctor should be congratulated.

The case reports of "Plaster Face," and "Reconstruction of Ears and Nose" are very interesting as so much reconstructive work will have to be done as a result of the war. These cases will form an incentive to follow methods therein advised with variations according to circumstances while remembering suggestions herein made.

The simple operation of Perineorrhaphy is very suggestive of good results. Fracture cases are ever with us but the cases of Dr. A. J. Ochsner are very interesting. Dr. Charles M. McKenna's "A Clinic on Genito-Urinary Surgery" is of special interest. Dr. Bernstein's clinics and case reports are extremely important and deserve congratulations as they are of everyday findings.

THE MEDICAL CLINICS OF NORTH AMERICA. September, 1918. U. S. Army Number, Volume 2, Number 2. Published Bi-Monthly by The W. B. Saunders Company, Philadelphia and London.

This volume is replete with research work of the base army hospital on diseases of the respiratory apparatus, tachycardia complications, measles, mumps, and post operative pneumonias. The study of the epidemics at Camp Zachary Taylor has been attended by such thoroughness and details that the busy practitioner can gain only valuable information. So also in regard to the streptococcal pneumonias of the army camps. To appreciate the functions of a base hospital one must either be a resident of the same in the care of the sick and wounded and in the prevention of disease or have it explained and the reason therefor as given by Dr. Frothingham. Each cantonment having their own particular form and although varying, the ultimate good is the same. The results of the cardiovascular boards,

their team work, their early recognition of tachycardia, and their divisions for acceptance and rejection makes by condensation a work finished in itself. In the study of cerebro spinal meningitis on account of the great number of cases that have developed at the cantonment, a conception of causation has been established. The report of Lieut. Morris H. Kohn goes into detail in the discussion of Paroxysmal Tachycardia. All of these keep up the high standards of the North American Clinics.

MANUAL OF OTOTOLOGY. By G. Bacon, A.B., M.D., F.A.C.S., formerly Professor of Otolaryngology, College of Physicians and Surgeons, Columbia University; Aural Surgeon, New York Ear and Eye Infirmary, etc.; and Truman L. Saunders, A.B., M.D., Assistant Professor of Laryngology and Otolaryngology, College of Physicians and Surgeons; Assistant Surgeon Bellevue Hospital, etc. New 7th edition, cloth, \$3.00; 583 pages with 204 illustrations. Lea & Febiger, New York and Philadelphia.

This new edition is as it always has been—a distinct value to the busy practitioner and student and a reference to the specialist. The chapter devoted to the adenoids and labyrinth has been revised by T. Saunders.

SURGERY IN WAR. By Alfred J. Hull, F.A.C.S., Lieut.-Colonel Royal Army Medical Corps; Surgeon, British Expeditionary Force, France. Late Lecturer on Surgical Pathology, Royal Army Medical College, Millbank; and Surgeon, Queen Alexandra Military Hospital. Second edition revised, 210 illustrations, 800, XV + 624 pages. Cloth, \$6.00. P. Blakiston's Son & Co., Philadelphia, Pa.

A preface by Lieut.-Gen. T. H. J. C. Goodwin, C.B., C.M.G., D.D.O., Director General Army Medical Service, Great Britain.

A preface by the author and an introduction by E. M. Pilcher.

Contributors on a variety of phases of war surgery supplement the authors views and experiences.

The book is well written. The prefaces and introduction indicate the spirit and purpose of the volume i. e. to give a concise treatise and a practical working knowledge of the new methods and procedures which are bound to supplant many of the older methods of practice in war and industrial surgery.

The illustrations are unusually enlightening, particularly those demonstrating the application of splints and treatment of bone injuries.

The contributions on the Carrell Dakin treatment of infected wounds, on microbic infection, bone injuries, gun shot wounds of chest and abdomen, brain and spine injuries and injuries to blood vessels and nerves will make this a very useful book not only for army surgeons but for those engaged in industrial surgery.

MANUAL OF GYNECOLOGY. By J. C. Hirst, M.D., Associate in Obstetrics, University of Pennsylvania. Cloth. Price \$2.50. 466 pages with 175 illustrations. Philadelphia: W. B. Saunders Co., 1918.

The aim of the author in this revision was to cut out all nonessentials which go to fill so many manuals, and to present to the student what is possible in this condensed form. The illustrations are very good. The newer methods that have been tested for the safety of the mother during pregnancy and labor have been clearly outlined and facts vital to obstetrics maintained.

PATHOLOGICAL TECHNIC. A practical Manual for workers in Pathologic Histology & Bacteriology. Including Directions for the performance of Autopsies and for Clinical Diagnosis

by Laboratory Methods. By F. B. Mallory, M.D., Associate Professor of Pathology, Harvard Medical School; and J. B. Wright, M.D., Pathologist to the Massachusetts General Hospital. Seventh edition, revised and enlarged. Octavo of 555 pages with 181 illustrations. Philadelphia and London: W. B. Saunders Company, 1918. Cloth \$3.75.

This very useful little book comes out in a somewhat condensed and rearranged form. The chapter on autopsy technic is made the last instead of the first, the work beginning with the laboratory examination of tissue followed by the methods of bacterial work. The material is brought down to date by very few additions among which, Good pastures Acid polychrome Methylene Blue method for staining frozen sections, Benians Congo red method for spirochetes, Claudius stain for flagellae, and the method of classifying pneumonia, deserve special mention. Altogether the work sustains its reputation as one of the laboratory workers most useful reference books, and will be a very great aid to all practitioners who do any laboratory work.

A HANDBOOK OF COLLOID-CHEMISTRY. By Dr. Wolfgang Ostwald, Privatdozent in the University of Leipzig. Second English Edition, translated from the Third German Edition by Dr. Martin H. Fischer, Professor of Physiology in the University of Cincinnati, with numerous notes added by Emil Hatschek, Cass Institute, London; 284 pages and 63 illustrations. Philadelphia: P. Blakiston's Son & Co. Price \$3.50.

The Handbook of Colloid-Chemistry by Dr. Wolfgang Ostwald and Dr. Martin Fischer, deserves special mention as to its excellent merits.

The book explains scientific work of a high order yet written in such form as to be readily understood.

Especially interesting is the chapter of Bronnian movement and that Osmosis of Colloid systems. One is well repaid in reading of the latest advances made in the study of Colloid solutions.

A TEXTBOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D. Fully illustrated, Sixth Edition, thoroughly revised. Philadelphia: W. B. Saunders Company, 1918. Price \$3.75.

The book on "General Bacteriology" by Edwin O. Jordan, published by W. B. Saunders Co. needs no introduction to the western reader of Bacteriology. Its chief merit is its brevity on the less important chapters. The chapters on pneumococcus and meningococcus together with the new data on trench fever, infectious jaundice and ratbite fever are especially valuable. Not only the Bacteriologist but the general scientific student should add this book to his library.

PHYSIOLOGY AND BIOCHEMISTRY IN MODERN MEDICINE. By J. J. R. Macleod, M.B., assisted by Roy G. Pearce, B.A., and by others. St. Louis: C. V. Mosby Co., 1918; 903 pages with 233 illustrations including 11 plates in colors. 800, Cloth, \$7.50.

The book "Physiology and Biochemistry in Modern Medicine" by Macleod, published by C. V. Mosby Co., is a book for which there is a distinct place in the medical man's library. It seems to have had for its aim the connecting of abstract diadactic laboratory knowledge with the data of the clinical investigator, helping him in the physiological interpretation of the diseased condition. With this aim in view it has wisely avoided the attempt of emphasizing the usual experimental physiology of first and second year which are more directly connected with special medicine, as physiology of nerve

and muscle, special senses, and reproduction physiology. It has paid particular attention to the far-reaching applications of the latest department of medical science, i. e. acidosis, goitre, nephritis, diabetes, and myxedema. It has also left out any extensive consideration of serum diagnosis which it recognises as a highly special science worthy of separate consideration. I think for the student who is about to enter his third and fourth year clinical work, this is an especially good book, and for the general practitioner who wishes to brush up on the physiological reason for clinical pathology.

The references to the outside literature consulted in preparing this work give the reader a feeling of confidence in the conclusions drawn and the text accepted.

A TEXT-BOOK OF PHYSIOLOGY: FOR MEDICAL STUDENTS AND PHYSICIANS. By W. H. Howell, Ph.D., M.D., Professor of Physiology, Johns Hopkins University, Baltimore. Seventh Edition Thoroughly Revised. Octavo of 1,059 pages, 307 illustrations. Philadelphia and London: W. B. Saunders Company, 1918. Cloth, \$5.00 net.

The seventh edition of a work so well and favorably known appearing thirteen years after the first publication needs no discussion farther than to welcome and commend.

The division of the contents into sections together with a carefully arranged index, makes it a valuable work of reference as well as a text-book.

While it would be practically impossible to incorporate all the new material that diligent study and investigation have brought forth in the past three years, this work embodies all that is necessary to make it up-to-date, and covers it in a masterly manner.

PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. Delee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School, Third Edition, thoroughly revised. Large octavo of 1,089 pages, with 949 illustrations 187 of them in colors. Philadelphia and London: W. B. Saunders Company, 1918. Cloth, \$8.50 net.

The more experienced the obstetrician the more thoroughly will be his accord with the teachings of this book. A scholarly and well written treatise gotten up in the easily readable manner with the well chosen topic heads and with the beautiful and instructive illustrations it is a very valuable text-book and ready reference.

The author as well as publishers are to be congratulated.

NEOPLASTIC DISEASES. A text-book on Tumors. By James Ewing, M.D., Sc.D., Professor of Pathology at Cornell University Medical College, New York City. Octavo of 1,027 pages with 479 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth \$10.00 net.

An analysis of so great a storehouse of observation and theoretical consideration is not possible within the limits of a review article. Chapters II and III dealing with the definition, classification, general pathology and malignancy and its effect on the organism, is a masterly review of the knowledge on this subject and should be recommended as a valuable work of reference.

The detailed description of the various neoplasms is written in a manner that gives evidence of a profound knowledge of the subject and a wide and sound clinical experience.

This important volume should be in the library of every physician.

A STUDY OF SEVENTY CASES OF CEREBROSPINAL MENINGITIS.

Seham in writing in *Minnesota Medicine* for October, 1918, as a result of this large experience gives the following advice:

In the premengitis stage, if the spinal fluid is clear, the serum may be used intramuscularly or intravenously, preferably the latter, but if signs of meningeal irritation have developed the intraspinal method alone, or combined with either of the two mentioned, must be used. Parke-Davis serum was used in the majority of his cases; in some Lederle, in a few Mulford, and in three chosen cases the serum from the Rockefeller Institute. The minimum number of injections to one patient was two, the largest number forty-four; the average number to each patient was seven. The general rule was to give the serum daily for five days, and then, if the fluid was clear, the general condition of the patient much improved, the serum was discontinued.

The dose of the serum has never been standardized, since we have no definite measure of potency. The average dose used for children was 15 Cc., providing that 15 Cc. or more of spinal fluid was removed at the same time. It is not safe to give more serum than spinal fluid withdrawn. In adults 30 Cc. was usually given, and in several instances, where excessively large amounts of fluid were withdrawn, 45 Cc. of serum was given. There is too great danger in giving a large dose at one time of causing undue pressure. If a dry tap was obtained, or only a few drops of spinal fluid, between 5 and 10 Cc. of serum was given. The administration of serum must be considered a major operation. The patient must be watched very closely for signs of collapse. Sophian's method of accurately recording the spinal pressure during the giving of serum must be a very safe procedure, even though it is not considered practical by all authorities. He was not in a position to use this method, because of the very large number of patients and the lack of assistance. The respirations, especially, should be watched, and at the first sign of collapse either camphorated oil or cocaine and atropine should be given hypodermically, and if respiration stops, artificial resuscitation should be employed. Also, at the same time, the tube containing the serum should be lowered, in order to allow the serum and the spinal fluid to flow out. Six of the patients showed such collapse, and these occurred before the gravity method was instituted. At first the syringe apparatus was used entirely; the fluid was directly injected with a syringe, but a death resulted with this method, and the so-called "gravity method" was used entirely thereafter. Very frequently the patient complained of severe pains in the back, legs, and head, sometimes at the beginning of the injection, but usually after. This pain is very severe and may persist for some time. Warm serum has been recommended to lessen the pain, but it possessed no definite value.

The so-called "water anesthesia," allowing the patient to suck water through a tube while the serum is being administered, is recommended by Sophian. The pain is, at times so severe that the patient's attention cannot be diverted, and again, the patient may be semicomatose; Seham did not find this method valuable. He used no anesthetic whatsoever, except in one case, in which laughing-

gas was used. A general anesthetic is useless in this condition, and so also is local anesthesia. If the patient is very unruly, and assistance is lacking, an anesthetic may be necessary in order to do a lumbar puncture.

WHEN TO DISCONTINUE THE SERUM.

1. The condition of the spinal fluid.
2. General condition of the patient.

At the onset of the disease the spinal fluid is nearly always cloudy, contains many extracellular organisms and many pus cells, and is under increased pressure. Usually at the end of five daily injections of serum the fluid clears up, the organisms disappear, and there are very few pus cells, or none at all. At the same time the patient's mental condition improves, the temperature drops, and the rigidity of the neck and extremities decreases. The serum should be discontinued under these conditions. After this a lumbar puncture, for a period of another week, should be done upon alternating days, to see whether the fluid remains normal. Even though clinical signs have improved, if the fluid should become cloudy again and pus cells and organisms return, the serum should be immediately readministered. If one is uncertain, the patient should always be given the benefit of the doubt, by the injection of serum. The fluid clears up, on an average, about the tenth day.

CARBOHYDRATES IN DIABETES.

In the progress of our knowledge of the nature of diabetes there has been a marked reaction against the entire withdrawal of the carbohydrates from the dietary of the diabetic. For a time there was even a tendency to administer carbohydrates as a curative measure and the "carbohydrate cure" seemed all but established. Then came the understanding that the carbohydrates cannot be withdrawn from the dietary of the individual without increasing the tendency to acidosis, or of precipitating a grave acidosis where previous to the carbohydrate withdrawal there was only a mild one. It is found that when the carbohydrate withdrawal is persisted in, acetone bodies soon appear in the urine. As the sugar disappears the acidosis appears. It must be understood that the presence of sugar in the urine is of importance only as indicating that the sugar is not being oxidized or utilized. As long as enough sugar is oxidized there is no harm in some or even a great deal passing through unoxidized, but as soon as the amount oxidized becomes deficient then acetone appears. Even in rather severe diabetes the organism can oxidize some sugar. If in these cases not enough carbohydrates are given to satisfy the meager demands and oxidizing powers of the organism, acidosis follows, so that in cases treated with carbohydrate withdrawal, in whom acidosis threatens, carbohydrates must be administered to forestall the event. Moreover with the withdrawal of the carbohydrates, so necessary for the production of heat and energy, the organism draws upon the proteins of the body for its carbohydrates. It is shown, in fact, that with the increase of the carbohydrate intake there is a decrease in the protein consumption. Whether the protein of the body is utilized in great quantities, or more proteins are consumed to make up for the carbo-

hydrate deficiency, increased protein metabolism means a large increase in the metabolic burden of the body. For the organism with a defective metabolic system, as evidenced by the presence of diabetes, this added metabolic activity is very harmful. Besides, protein metabolism is the most potent factor in the production of acid; indeed, protein food may be called acid food. In addition to the natural hypoalkalinity of diabetes there is, then, the increased acid production—and acidosis is bound to follow. The administration of carbohydrates reduces the protein metabolism sufficiently to prevent acidosis, where the carbohydrates oxidizing power is not too far gone.

When the value of administering carbohydrates in diabetes was first understood it was thought that certain carbohydrates behaved differently from others. Oatmeal was supposed to have a special value as a carbohydrate cure because it was thought that the starch in it had a special action; that it had certain special ferments or extractives of value; or that it reduced the permeability of the kidneys to sugar. None of these hypotheses has any substantiation, and any value that oatmeal has in the so-called "oatmeal cure" must be ascribed to the general value of carbohydrate administration, where there is a defective carbohydrate oxidation, and where the organism is using up its own body proteins to make up the deficiency naturally withdrawn in a mistaken notion of treatment.

The most recent conception of the proper treatment of diabetes takes into consideration the metabolic disturbance at the base of the disease, as well as the part that the carbohydrates play in the disease. The starvation treatment has for its object, therefore, the resting of the metabolic system for the period of the starvation. The subsequent dietary treatment no longer contemplates the withdrawal of the carbohydrates, but rather that they be given in sufficient quantities for the needs of the system, without necessitating drawing on the body proteins. On the other hand, it is not intended to tax the metabolic processes by administering large quantities of food. Every element of food is reduced to the minimum needs of the body. When it is remembered that a reduction of half of every one's dietary would be beneficial rather than harmful, there need be no fear of underfeeding in an organism whose metabolic system is damaged. Most of all, is the protein kept at a minimum in order to reduce the tendency to acid production.—*Boston Medical and Surgical Journal*, June 6, 1918.

"AFFLICTION MAY ONE DAY SMILE AGAIN."

By Constance Winifred Stumpe.

He is a man of attractive mien, middle-aged and gray, with clean cut features and an expression of utmost kindliness. And he has done his part in the war as few men have, for in founding St. Dunstan's Hospital for Men Blinded in Battle, Sir Arthur Pearson has brought light to the lives of hundreds of soldiers who have given their eyes for England.

Sir Arthur is proud of his school, as he may well be, and prouder still of its happy pupils who are

learning to make four senses do the work of five, and still finding life good.

St. Dunstan's was opened in 1915, in the London residence of Otto H. Kahn, of New York. It is the only institution of its kind maintained by private initiative and voluntary contributions. Its student body numbers 400; 600 have already been launched anew in life, well satisfied with the training and encouragement they have received, and well able to meet life and make their own way—not as "blind men," but as "normal men who have lost their sight." Maudlin sentiment and pity have no place at St. Dunstan's. The men are taught self-reliance from the first and not permitted for a moment to consider themselves afflicted." Handicapped, perhaps, but afflicted, never!

The pupils are taught to read by the perfected Braille system, and it has been observed that the average blind student acquires the rudiments of Braille as easily as a child learns his alphabet, after which progress is rapid. Finger tips are soon trained to take the place of eyes and the fairy world of books is not long closed to the sightless. In the operation of the typewriter, the blind pupils are very proficient and many have already taken their places in the business world as trained secretaries, after having mastered Braille shorthand. Some of these are occupying the positions they held before the war; others have risen to places far superior to those which they previously filled. Upon leaving the institution, each man is given a typewriter, the writing medium of the blind, whose handwriting quickly deteriorates.

Sir Arthur relates an anecdote, showing the rapidity with which the blind soldier learns new things:

Passing through the hall one evening, Sir Arthur, who himself has been blind for five years, heard the rapid click of a typewriter.

"Who goes there?" questioned Sir Arthur.

"Crocker, sir—writing a letter to my mother!"

"Ah, Crocker, how are you getting along?" said Sir Arthur, knowing that the pupil had been at St. Dunstan's but six weeks and had been a miner before the war.

"Fine, sir!"

Did you know anything about a typewriter before the war, Crocker?"

"No, sir—I'd never even seen one!"

This is simply of the progress made at St. Dunstan's. Most of the instructors are blind and there are almost as many as there are pupils, assuring individual attention to each one. There is also opportunity to learn basket making, shoe mending, net weaving, broom making and similar occupations at which the blind are particularly apt, although in so far as possible each man is replaced in his old profession.

Fowl breeding is another special feature of St. Dunstan's. Holding a wiggling buff-cochin or Wyandotte in his hands, the blind man can readily tell its breed, weight and size. Many pupils have been successful in this field. Carpentry has also been successfully tried out. It seems nothing short of miraculous to see sightless men using the plane, saw and hammer and turning out attractive little tables, cabinets, shelves, bookstands, etc.

And there is the garden. On moonlit summer nights, whose spell and beauty the blind feel, per-

haps more deeply than we who have eyes, the students gather about in groups. They are fond of singing. One among them is gifted with a remarkable tenor voice, which gives great promise. And there are guitars, and mandolins and ukeles whose strings throb with gay soldier songs and song of home and love. There are two blind men with a guitar in a rowboat on the lake. No gondoliers of Venice sing more sweetly. There are two more engaging in a tug-o'-war, in a moonlit circle on the lawn, cheered on by their companions.

So life at St. Dunstan's is pleasant. The days are filled with work cheerfully done. The blinded soldier comes back to his own and soon retrieves his lost spirit, and in a measure, his lost "sight," for he discovers that he does not see with his eyes, but with his brain, and though deprived of the proper God-given medium of sight, soon learns to convey the "message of the light" to his brain through other channels.

It is surprising that Sir Arthur takes such pride in his pupils? He is giving men back to life and usefulness, showing them the "unknown guest" within whose power no amount of material misfortune can dwarf. St. Dunstan's will go down in history as one of the great institutions of the war, one that has revolutionized the teaching of the blind and made of them merely normal individuals who are doing without their eyes and doing well!

BRITISH DOCTORS IN STORM OVER NEW GOVERNMENT PLAN.

London, Feb. 1.—Changes in England's system of medical service whereby the "panel" plan now applicable to the poor would be extended to all classes are proposed by a government committee. Many physicians are strongly opposing the proposals.

For a number of years, under a health insurance act, wage earners have been called upon to make a small weekly payment to a fund which the government uses to provide medical attention for all classes of the population affected by the insurance law. Every practicing physician must treat a certain number of the so-called "panel" patients, receiving pay for this work from the government. The new scheme provides for whole-time medical service, and practitioners entering it are to be graded into five classes corresponding to military rank, ranging from lieutenant to colonel.

Class 1 would be paid \$7,500 a year. Class 2 \$5,000 and so on down to Class 5 which would pay \$2,000. Examinations would be held for promotion to higher classes. Expenses incurred by the practitioner for drugs, appliances, clinics and traveling expenses would be paid by the government.

Each physician would be expected to look after between 2,000 and 3,000 patients. The higher classes of men would deal chiefly with administrative work and with the giving of consultative advice.

The patients would be expected to attend a surgery in the morning. Evening consultation would be discontinued and less visits would be paid at night to patients than is done now. Work out of hours would be taken over by the juniors.

All hospitals would be taken over by the government, under this plan.

According to the secretary of the Medico-Political

union, there is a flow of protests from physicians in the army against the scheme.

"Not one-third of the doctors want it," he said. "A clinical service is an abhorrence to both medical men and the public. We are not opposed to state control of hospitals. What we object to do in the clinical system is the destruction of the personal relationship between practitioner and patient, and the abolition of free choice of doctor. The women will be dead against it."

MICHIGAN HISTORICAL COMMISSION, LANSING, MICH.

The first number of the Michigan History Magazine, for the New Year comes to hand fresh and attractive both in appearance and contents.

Col. Roy C. Vandercook, in a review of the work of the Michigan War Preparedness Board for the year just closed, shows that body to have done a patriotic work of inestimable value which has placed Michigan in the forefront of war activities among the states of the Union.

"America and the Great War" is discussed by two Michigan teachers, Miss Bernice Anna Perry of Kalamazoo and Principal E. W. Ties of Crystal Falls.

In "Democracy's Educational Problem," Prof. Claude H. Van Tyne of the University of Michigan sets forth the absurd misconception of our true relations with England due to the prejudices perpetuated by school text-books in teaching the American Revolution, the War of 1812, and failure to emphasize the democratic transformation of England during the later years of the nineteenth century. He pleads that the future welfare of democratic peoples the world over demands that this wrong be righted.

A rare picture of a happy and useful married life is presented in the biographical sketch of Mrs. Ferris by her husband former Governor Woodbridge N. Ferris. A pleasing glimpse is given of their school and college days, their work together in the school room, Mrs. Ferris' regard for young folks, her love of nature, her fondness for great books, her sense of humor, with interesting comments upon her letters and essays.

The story of Gross Ile is charmingly told by Father John R. Command and there is a sketch of the life of Captain W. C. Brown by Hon. Crockett McElroy. The editorial columns contain historical hints for teachers. Any public or school library may obtain a free copy of the Magazine by addressing Michigan Historical Commission, Lansing.

DEPARTMENT OF LABOR.

The demand upon the newly established Working Conditions Service of the U. S. Department of Labor, for industrial physicians and surgeons, has grown so rapidly that the Service has been compelled to establish a bureau of registry of physicians specially skilled in this growing phase of medical and surgical specialization.

Manufacturing interests throughout the country are becoming impressed with the vital necessity of properly safeguarding the lives and health of employees, not only from the viewpoint of the new

humanitarianism, but from a sense of business foresight.

The new registry bureau is prepared to furnish industries with the names of skilled industrial medical advisers on request. The demands for competent medical directors for the factory departments of hygiene are being met by the Service with an adequate list of physicians, all of whom have had experience and training in this particular function. Hundreds of such physicians are listed in the Government's registry bureau in Washington and hundreds are being added to the registration files.

In each instance the Service satisfies itself of the training of the physicians before their names are allowed on the list. Thus, only those best qualified are listed and manufacturers have the advantage of knowing that by availing themselves of this Service their dispensary section will be in competent hands.

In addition to submitting names from the physicians' registry bureau, the Service is making investigations—only on request, however—of the general facilities for protecting the lives and health of employees. This work is carried on from branches of the Service now being established within easy reach of the nation's industrial centers. When such surveys are concluded a report of the findings, with recommendations, is delivered to the responsible head of the particular industry. In this manner industries are assured reliable and unbiased information from authorities who have studied industrial problems exhaustively, with expert training in hygiene, sanitation and related subjects.

Employers and employees have expressed approval of the plans inaugurated by the Working Conditions Service, and have shown a desire to co-operate in the establishment of factory hygiene departments. From the viewpoint of national welfare it is a mighty stride toward bringing employees and employers to a recognition of common purpose and mutual benefit, and the demands upon this newly established Service can only be interpreted as indicative of the value of the medium that has arisen most opportunely.

IS THE MODERN TREATMENT OF SYPHILIS A SUCCESS?

Most physicians who have been in practice twenty years or more can recall cases of syphilis treated with mercury and iodine via alimentary canal for the then recognized period of two to three years, and to-day can place the patients, having had them under observation for that length of time, or being aware of their presence in the community, and can say that they have evidenced no outward or inward signs or symptoms of the disease. They can even recall sporadic cases in which the disease has appeared twice in the same patient, thus evidencing a cure for the first outbreak. Furthermore, they can bring to mind cases which have been quite thoroughly treated, but which, ten or more years later, have presented manifestations which point all too clearly to the activating syphilitic poison. Whether cases were completely cured or not, it is certain the disease remained quiescent and did not give the patient any further trouble, often through life.

To-day the former treatment has given

intravenous injections of one of the arsenical compounds, supplemented by the former treatment, or at least by hypodermic injections of some mercurial compound. Can the results achieved by this form of treatment be termed successful? Are we any better off with it than with the older treatment? And which is the remedy, the arsenical compound, or the mercury?

If the results achieved at the Toronto General Hospital can be taken as a criterion and on a par with those achieved in other similar institutions, the majority of physicians can hold to no other opinion than that the treatment is neither satisfactory nor encouraging, even though the writer we shall presently quote states: "Considering the class of cases that have been dealt with at our clinic, the results of treatment are not at all discouraging." This is an opinion of very doubtful value.

In the July issue of the *Canadian Medical Association Journal*, Dr. W. T. Williams outlines the method of treatment and the results obtained in five hundred cases. Of these five hundred cases, 145, or 29 per cent., were at an early stage of the disease; 353, or 71 per cent., were at later stages. On an average of seven and a half doses of 0.5 gramme plus four and a half intramuscular injections of mercury, negative Wassermanns were secured in only seventy cases, approximately fifteen per cent. Of these seventy cases, twenty-three were in early stages of syphilis, and forty-seven in the later stages. "Practically all of the late cases were given in addition mixed treatment of mercury and potassium iodide." Very important, too, is this sentence: "Twenty-four cases had a return to positive Wassermann, thirty-five still remain negative, while eleven of them passed from our control"—a not uncommon sequence to the treatment of such cases. That is to say, of the series of five hundred cases treated, thirty-five cases, 7 per cent., may be said to be cured, that is, so far as a Wassermann negation indicates a cure. The number is very, very small, and instead of being problematically "not discouraging," is to say the least, entirely so.

How can the conscientious physician face the patient who seeks a cure for this elusive enemy in his blood or his tissues, and tell him that at the Toronto General Hospital 7 per cent. of the cases are supposedly cured? Surely these results are humiliating rather than "not at all discouraging."

Nor can many be found to agree with a further statement that "about 80 per cent. of all cases experienced relief or freedom from all symptoms, which at any rate is encouraging." Has it not been the common experience that a majority of all cases of syphilis experience relief or freedom from all symptoms either with or without the former treatment after the so-called secondary stage has been passed?

There is, however, another vital point in this modern treatment of a patient with syphilitic infection, the question of expense. Are physicians justified in placing this added financial burden upon patients, when they can probably secure satisfactory "cures" in 7 per cent. of the patients so treated?

The time now seems opportune for the national medical bodies of Canada and the United States (the Canadian Medical Association, and the American Medical Association) to consider the entire

question of the modern treatment of syphilis by the intravenous method of arsenical preparations, to appoint commissions or committees, and to have the statistics of hospitals and those of private practitioners with sufficient experience along these lines collected and collated, so that the profession of medicine and the patients may become assured of any real value which this modern method of treatment possesses.—*New York Medical Journal*, Aug. 17, 1918.

TO THE SOLDIERS AND SAILORS OF AMERICA.

Approximately four million officers and men of the Army and Navy are now insured with the United States Government for a grand total of almost thirty-seven billion dollars.

You owe it to yourself and to your family to hold on to Uncle Sam's insurance. It is the strongest, safest, and cheapest life insurance ever written.

For your protection Uncle Sam has established the greatest life insurance company in the world—a company as mighty, as generous, and as democratic as the United States Government itself. Just as Uncle Sam protected you and your loved ones during the war, so he stands ready to continue this protection through the days of readjustment and peace.

The privilege of continuing your Government insurance is a valuable right given to you as part of the compensation for your heroic and triumphant services. If you permit the insurance to lapse, you lose that right, and you will never be able to regain it. But if you keep up your present insurance—by the regular payments of premiums—you will be able to change it into a standard Government policy *without medical examination*. Meantime you can keep up your present insurance at substantially the same low rate. The Government will write ordinary life insurance, twenty-payment life, endowment maturing at age 62, and other usual forms of insurance. This will be Government insurance—at Government rates.

The United States Government—through the Bureau of War Risk Insurance of the Treasury Department—will safeguard you and your loved ones with the spirit and purpose of a Republic grateful to its gallant defenders. To avail yourself of this protection, you must keep up your present insurance. Carry back with you to civil life, as an aid and an asset, the continued insurance protection of the United States Government.

Hold on to Uncle Sam's insurance.

W. G. McAdoo, Secretary.

AN IMMENSE FUND FOR MEDICAL RESEARCH.

According to *Science*, the will of the late Captain J. R. De Lamar, mine owner and capitalist, leaves nearly half his \$20,000,000 estate, in equal shares, to the Harvard Medical School, Johns Hopkins University and the College of Physicians and Surgeons of Columbia University for use in medical research and the dissemination of medical knowledge. The rest of the estate is left in trust to his daughter, with the provision that if she dies without issue the principal is to go to the institutions above named.

Some "Patent Medicines" Investigated by the Government.—The following are the names of proprietary medicines which have been the subject of prosecution under the Federal Food and Drugs Act in the government's attempt to protect the public against fraudulent or misleadingly advertised products: Royal Baby's Safety; Simpson's Cerebro-Spinal Nerve Compound; Constitution Water; Tweed's Liniment; Pulmonol; Crown Skin Salve and Pile Cure; King of the World and Family Liniment; Ka-Ton-Ka; Greenhalgh Diphtheria Remedy; Mountain Rose Tonic Tablets and Herbaline; Parmint; Sulphurro; "Liveon, The 90 Day Consumption Cure;" "Liveon Lung Discs;" White Beaver's Cough Cream and Wonder Work; Watkins' Vegetable Anodyne Liniment, Female Remedy, and Kidney Tablets; Nature's Creation Co.'s Discovery; Radium Healing Balm; Phuton's Kidney Remedy; Palmer's Skin Whitener; Barnes Baby Relief; Sayman's Healing Salve; Sayman's Vegetable Wonder Soap; Humphrey's Pile Ointment; Witch Hazel Oil (Compound); Hill's Honey and Tar Compound; La Franco Combination Treatment" and "La Franco Vitalizer No. 200." (*Jour. A.M.A.*, Jan. 25, 1919, p. 297).

Evidence.—The Cutter Laboratory advertises that a physician has used between 700 and 800 doses of its Mixed Vaccine-Respiratory Infections as a prophylactic without a single failure to "protect" against the disease. The Cutter Laboratory thinks this is evidence which "is convincing enough to satisfy even the most conservative." If a physician were to report that 643 of his patients who had used salt instead of sugar in their coffee had remained free from influenza, would this be evidence of the prophylactic value of sodium chlorid? The science of therapeutics is complex enough at its best; and with commercialism dominating the production of therapeutic agents, the likelihood of ever arriving at anything approximating a true science of therapeutics seems hopeless. (*Jour. A.M.A.*, Jan. 4, 1919, p. 45).

Digitan.—A digitalis preparation said to contain digitoxin and digitalin in the form of tannates. It is standardized biologically. Digitan was first introduced as digipuratum and is made under the digipuratum patent by license of the U. S. Federal Trade Commission. The actions, uses and dosage of digitan are the same as those of digitalis. It is sold in the form of a powder and as digitan tablets $1\frac{1}{2}$ grains. Merck and Col, New York.

NEW AND NONOFFICIAL REMEDIES.

Chloramine-T, Monsanto.—A brand of chloramine-T which complies with the New and Non-official Remedies standards. The properties, actions, uses and dosage are described in New and Non-official Remedies, 1918, p. 156. Monsanto Chemical Works, St. Louis, Mo.

Neoarsenobenzol (Dermatological Research Laboratories).—A brand of neoarsphenamine complying with the New and Nonofficial Remedies standards. It is marketed in tubes containing, respectively, 0.1

Gm., 0.3 Gm., 0.45 Gm., 0.6 Gm., 0.75 Gm., and 0.9 Gm. Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia. (*Jour. A.M.A.*, Jan. 25, 1919, p. 275).

EGG SUBSTITUTES.

The U. S. Bureau of Chemistry has recently turned its attention to the numerous so-called "egg-substitutes" now on the market, concerning some of which extravagant claims are made on their labels, as to their food value and their ability to serve the purpose of eggs in baking and cooking. Analyses show that many of these substitutes consist essentially of a mixture of starch and baking powder, colored yellow with a coal-tar dye. A few contain casein, which is an ingredient of milk. The food value of such preparations, says the Bureau, is far inferior to that of eggs, and experiments show that the substitutes do not have the effect of eggs in cooking. Action has already been taken under the Food and Drugs Act to prosecute the manufacturers of some of these preparations.

PROPAGANDA FOR REFORM.

Misbranded Nostrums.—The following "patent medicines" have been the subject of prosecution under the Federal Food and Drugs Act: Paine's Celery Compound; Botanic Blood Balm; Owens' Wonderful Sore Wash; Lafayette Cough Syrup; Gilbert's Gravel Root Compound; Strange's Rheumatic Remedy; Baur's Diamond Brand Bromides; S. B. Cough and Consumption Remedy; Gowan's Preparation; Urol; Boxenbaum Discovery; Tablets Creavita; Old Lady Fulten's Comforting Pills; C. C. C. (Crownall Elastic Capsules); Victor Injection, No. 19 Compound and No. 6 Compound; Hemogenas Pills; Restorative Tablets—Fountain of Health; Denn's Strong, Sure, Safe and Speedy Stomach, Liver, Kidney, and Rheumatism Remedy; Dr. Navaun's Mexican Lung Balm; Dr. Navaun's Kidney Tablets; Dr. Chas. DeGrath's Electric Oil; Bovinine; Fritch's Vegetable Liniment; Perkin's National Herbs Blood Purifier, Kidney and Liver Regulator; Dr. Lemke's Golden Electric Liniment; Dr. Lemke's St. Johannis Drops; Mentholatum; Enteronol; Dr. Harter's Lung Balm; Dr. O. Phelps Brown's Herbal Ointment; Taylor's Horehound Balsam; Breeden's Rheumatic Cure; Sulphur Bitters; Dr. De Witt's Eclectic Cure; Dr. De Witt's Liver, Blood and Kidney Remedy; Payne's Syllak; Dr. Bell's Pine Tar Honey, and Lung Germine. (*Jour. A.M.A.*, Jan. 4, 1919, p. 59).

"Aspirin" a Common Name.—The claim of the Bayer Company to the exclusive right of applying the name "aspirin" to acetylsalicylic acid will be definitely set aside if the recommendation of the examiner of interferences of the United States patent office is upheld. The stand taken by the patent office is in line with the established principle that no one can have a monopoly in the name of anything. Since "aspirin" has become the common name for acetylsalicylic acid, no one firm can have an exclusive right to it. (*Jour. A.M.A.*, Jan. 11, 1919, p. 119).

AT WORK IN MICHIGAN.

The Menace of the Feeble-minded Prostitute and
How It Must Be Met.

(By Katherine Ostrander, Director.)

Up to the date of August 15, there have been 675 women patients admitted for venereal treatment throughout the State. Of these 391 (385 of whom are acknowledged and unacknowledged prostitutes) have been discharged, no longer in an infectious state, leaving 284 women now under treatment.

Of these discharged cases, 20 are women who were recommended as being in need of care in the Michigan Home and Training School at Lapeer, but could not be taken because of lack of room in that institution. Sixty of them were diagnosed as retarded mentally but not to a degree making institutional care necessary. Thus, one-fifth of our discharged cases are subnormal mentally, some of them imbeciles. These high-grade morons are the most difficult cases to handle as they are not capable of deciding right and wrong, have no will-power and are led by any stronger will. They are often physically attractive and appear normal.

A great effort is being made to give these discharged girls and women every opportunity to live normal, well-balanced lives, special emphasis being laid on finding them congenial employment and lodging. To do this, it is sometimes necessary to take a girl out of her home environment entirely and place her with strangers who are interested in her, or with relatives.

Of the 391 discharged, one per cent. of seven cases have been returned to the hospitals reinfected. Knowing that a patient can reinfect herself through the natural course of the disease or by not taking treatments regularly, we cannot say how many of these cases are new infections. All but one of them are feeble-minded.

The most difficult of all social problems is the high grade feeble-minded person. She looks normal, is not usually physically disfigured, and is able to

carry on a fair conversation under normal conditions. She is restless, lacks power of decision, has no will, no tenacity or power of concentration and will always be carried by any will stronger than her own. She could be trained from an early age to do one thing well, thus avoiding the economic pressure which she always meets in later life. Without special early training she cannot be economically independent and therefore drifts into prostitution where she can earn food and a bed.

It is my opinion that until Michigan has adequate institutions for housing and training the feeble-minded, the problem of venereal prostitutes will continue to grow worse and venereal diseases will continue to increase in all classes of society.

During January the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Dermatological Research Laboratories:

Neoarsenobenzol.

Guiseppe W. Guidi:

Ittiolo.

Merck and Co.:

Digitan,

Digitan Tablets, 1½ grains,

Quinine Ethyl Carbonate-Merck.

Monsanto Chemical Works:

Chloramine-T, Monsanto.

Unsuccessful Attempts to Transmit Influenza Experimentally.—Two extensive attempts have been made under the auspices of the U. S. Public Health Service and the U. S. Navy to transmit influenza experimentally. Inoculations were made of pure cultures of the influenza bacillus, of secretions of the upper air passages in the early stages of influenza, and of blood from typical cases of influenza, and other methods of transmitting the disease were tried. In no case was influenza developed. (*Jour. A.M.A.*, Jan. 25, 1919, p. 281).

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Original Articles

ENCEPHALITIS LETHARGICA.

ELMER W. SCHNOOR, M.D.

GRAND RAPIDS, MICH.

This quite obscure and mysterious disease has been variously termed: "a new disease," "a new syndrome," acute epidemic encephalitis, epidemic stupor, nona, Heine-Medin disease, epidemic encephalo-myelitis and sporadic polio-encephalitis.

Encephalitis lethargica is an infectious inflammatory disease of unknown etiology, characterized by specific manifestations arising in the central nervous system, of which the most frequent and pronounced characteristics are: general asthenia, progressive lethargy and cranial nerve palsies.

History.—Von Economo at the April, 1917, meeting of the Viennese Society of Psychiatry introduced the present common accepted term, lethargic encephalitis.

Professor A. Netter at the Paris academie de Medecine on May 7, 1918, expressed the view that the disease is a distinct entity and not a form a polio-encephalitis and believed the disease occurred at the end of the 17th century and the beginning of the 18th in Germany. It occurred in upper Italy and Hungary in 1890 when the pandemic of influenza of that era was declining. Very suggestive cases occurred in nearly all countries of Europe and in the United States in the spring of 1895. No doubt exists, that the disease occurred in Vienna in the winter of 1916-17. Harris of London and Hall of Sheffield called the attention of the British Medical profession to the disease in March, 1918. Cases have recently been recognized in the United States.

CASE I. Male, age 18, seen service in Naval Reserve at Hampton Roads Naval Base. January 21st, a week before his return home, after discharge from navy, he noticed a "twisting" of eyes and saw double, had to read with one

eye closed, felt tired and dull. En route home seemed dazed at the Station in Cincinnati and was sent to hospital by the Red Cross. Remained in the hospital one day and was discharged seemingly improved. Walked to street car, which he boarded to depot; took train for Grand Rapids, his home, and arrived the morning of January 28. Staggered into home and shocked mother, seemed quite dazed, disinterested and giddy. Toward evening became delirious and trembling of whole body developed. Dr. N. (the second case of this report) was called and found patient had a temperature of 100 and talkative. January 31st I saw the patient in consultation with Dr. N. and patient gave evidence of quite profound stupor but could be aroused and would answer a few questions in a droll manner, great effort present to raise eyelids and an internal strabismus evident with marked congestion of retinal vessels but no evident hemorrhages. Distinct rigidity of neck present, as also suggestive Kernig. Tache cerebral marked. February 1st I performed a spinal puncture. The clear fluid exuded under markedly increased pressure and on examination showed a normal count and the cell present of lymphocyte type. Culture negative. No albumen reaction and no film development in specimens left in refrigerator for three days. Wassermann reaction was negative. Centrifuged sediment showed no tubercle bacilli. Blood and urine were examined and found normal. February 2nd, the right pupil was smaller than the left and a distinct bilateral ptosis. February 3rd, Asthenia marked, unable to raise extremities and profuse sweating began and has continued to date. Incontinence of urine commenced and lasted for ten days. Following spinal puncture he was brighter for three days and then passed into a stupor for seven days and then gradually became brighter. Opened eyes in a half way manner and paid attention to happenings about the room and talked to his wife whom he previously had not recognized. March 7th, was permitted out of bed and at present, March 16th, his eyes have

*Read before Muskegon County Medical Society, March 21, 1919.

improved but the left ptosis remains and after prolonged focus of eyes on an object the left eye converges. He sits listless and moves his jaws frequently as if chewing. He walks about a little, slowly and somewhat uncertain. He does not venture to speak unless spoken to and rarely smiles. Appetite is voracious and thirst intense. Noise irritates patient intensely. Hearing seems to be very acute. From February 1st to the 14th carried a temperature ranging from 99.4 to 103.4, pulse 112 to 136 and rather feeble at times and respiration 22 to 28. Sleeps well but quite prolonged.

CASE II. Dr. N. Physician, male, aged 41, first saw case I on January 28 and was in attendance four days—26 days later, Saturday, February 22 seemed quite weary and surprised that his vision was somewhat blurred and he saw double. This diplopia lasted two days but the blurred vision has continued to a degree to date March 16th but is improving—weariness progressed but the doctor continued his practice for three days when he complained of cardiac palpitation and consulted Dr. Northrop, complained of extreme tiredness and seemed dull and irritable. The following day, February 26, felt weaker and drowsy and took to bed, would speak with an effort to the immediate members of his family, was quite indifferent and oblivious to surroundings. March 1st asthenia more marked and trembling of body evident with pains in forearm and next day in hip and legs which continued intermittently for a week. Sunday morning, March 1st, I saw the patient in consultation with Dr. Northrop and diagnosed the case encephalitis lethargica and suggested spinal puncture. Later in the afternoon further consul with Dr. Camp occurred, who performed spinal puncture and took blood culture. Two days later, March 4th, he began to seem brighter, talked spontaneously the next day and became very restless. This restlessness was quite extreme for a period of nine days and then began declining. With the decline of restlessness the doctor has assumed a rather euphorious state, being quite elated over his improvement. Some difficulty in raising the neck was experienced after the first week and gave evidence at my examination by a suggestion of distinct resistance on March 2nd. Profuse perspiration became evident four days after onset and a miliarial eruption appeared on March 3rd. Four days after onset an evening rise in temperature 100.6 occurred but was normal next morning. After this it ranged from 99 in the morning to 101.6 in the evening for twelve days and then became normal. March

2nd to the 8th the pulse was 120 to 128, respiration 22 to 28 after March 8th, pulse 84 to 100 and respiration 20 to 24. March 2nd to the 10th, had retention of urine, necessitating catheterization. At all times took nourishment when aroused and offered to him and now has a voracious appetite. Constipation was present throughout the course. Eye examination by Dr. Camp revealed a mild neuro-retinitis. Later Dr. Camp reported spinal fluid negative as well as blood culture, and Wassermann reaction. Urine and blood examined by Dr. Northrop negative.

CASE III. Male, age 68, February 17, complained of vague pains in back and felt tired. Five days later began to get drowsy and seemingly weak. Seen by another physician but no diagnosis made. February 25th very stuporous and hesitancy in speech noted, at times wide awake and would wander about room. February 26th marked weakness of extremities and pains in legs when I was called. Suggestion of left facial palsy and difficulty in speech. February 28th speech more distinct, weakness and drowsiness marked, facial palsy distinct and rigidity of neck present. March 1st, stuporous, slight temperature; arousable but unable to speak distinctly though an effort was made, but performed certain acts desired. March 5th neck distinctly rigid with slight retraction and dysphagia present. Dysphagia continued for six days and has improved. The period of the first four days during which the dysphagia was pronounced, the patient had intervals of Cheyne-Stokes respiration. Mentality brighter and extremely restless and moaning at times developed and continues. The patient had incontinence of urine for a few days as also incontinence of stool. March 14th able to articulate and answer questions with monosyllabic words. Sits up unassisted but restlessness continues. Urine faint trace of albumen, with mucin and few leucocytes and epithelial cells present. Blood pressure 140. Eye examination by Dr. D. Emmett Welsh revealed swelling of nerve head, blurring of disc, marked venous engorgement and contraction of arterioles.

Etiology.—Von Wiesener, who studied Economo's fatal case, a girl of 14, cultured a diplo-streptococcus but was unable to demonstrate the organism anywhere in nerve tissue in microscopical preparations. Wilson reports negative bacteriological findings in tissues of his two fatal cases and refuses to accept von Wiesener's diplo-streptococcus as an etiological factor. McIntosh on behalf of the Medical Research

Committee of London Hospital and Hancock and Pearse of the food branch of the Board's Medical Department of London, investigated from the view of possible food origin and concluded that neither on the bacteriological, nor on the epidemiological side could any direct or indirect evidence be obtained of an association of the illness with bacillus botulinus or with food infection. The results of the preliminary inquiry pointed to a possibility that it might be one of the many forms of the disease or group of diseases at present labeled "Heine-Medin"-disease, of which acute poliomyelitis was the commonest type. Picken believes the cases first regarded as botulism, to be polioencephalitis, an aberrant form of acute anterior poliomyelitis and reported two cases. Breinl of Australia states that pathological and experimental research convinces him that the Australian "Mysterious Disease" represented the identical virus as that of acute poliomyelitis and clinically presented a polioencephalitis. Marinesco and McIntosh concluded independently that encephalitis lethargica in the 1918 outbreak was the same disease as described by von Economo of Austria and Netter of France and was a disease clinically distinct from analogous affections. Hamer of the Royal Society of Medicine believes the epidemic merely part and parcel of a prevalence of influenza. During the last ten years evidence has been collected clearly showing close association between outbreaks of poliomyelitis, polio-encephalitis, cerebro-spinal meningitis and prevalence of influenza. Noel calls attention to the marked similarity of a large number of case to typhus fever. Lethargic encephalitis occurs in all ages and about equally in sex, and most prevalent in winter and spring.

Pathology.—Marinesco, professor of Neurology at Bucharest has found disseminated miliaary or punctiform hemorrhages visible to naked eye in the grey matter in neighborhood of floor of 4th ventricle, the aqueduct of Sylvius and even the 3rd ventricle and also posterior part of pons and peduncles. Cerebral cortex showed congestion of lepto-meninges. The first segment of spinal cord same histological lesions as pons, bulb and peduncles. Microscopical study of the above mentioned regions had demonstrated existence of four kinds of lesions: (1) Infiltration of walls of small vessels, especially the veins, consisting of lymphocytes and plasma cells in the adventitia, disposed in several layers. The endothelium and fibroblasts might also take part in the inflammatory process. (2) Foci of interstitial inflammation

consisting of neuroglia cells of several kinds, including large cells with voluminous eccentric nucleus and many fibrillary prolongations, lymphocytes and polynuclears. The foci appear sometimes to be altogether independent of vascular infiltrations and might occur in the nerve roots, as the hypoglossal, pneumogastric, etc. (3) Lesions of the nerve cells which did not correspond with those usually seen in infantile paralysis. There was dissolution of the soi-disant, Nissl bodies, relative achromatosis, reduction in volume of cellular body and number of neuronphagia as described by Economo. (4) Foci of hemorrhage much more numerous when microscopic examination was made. Hemorrhages remained circumscribed around walls of small-vessels and red cells mingled with inflammatory infiltration cells. The vessel walls did not appear necrosed but sometimes a solution of continuity of vessel wall could be seen.

Buzzard's microscopic study of pathological lesions showed the remarkable way in which the vessels of the brain reacted in this inflammatory process. Chief features are: (1) Perivascular infiltrations, mainly with small round cells. (2) Small capillary hemorrhages which suggest a gradual oozing of blood, through damaged walls of small veins or capillaries. (3) Thrombosis of small and middle sized vessels in different stage of organization. (4) Ischemic softenings presenting appearance of hemorrhagic infarction. (5) Subarachnoid hemorrhages and cellular infiltration of lepto-meninges. (6) General neuroglial proliferation. (7) Chromatolysis and coagulation-necrosis in nerve cells.

Box's case, an apoplectiform type of epidemic encephalitis, suggested hemorrhage and at post-mortem, some of the lesions suggest hemorrhagic infarction rather than true extravasation and states it is conceivable that perivascular exudation might itself lead to vascular strangulation or thrombosis.

Symptoms.—The incubation period of this disease is variable and indefinite. The onset in five of sixteen of Hall's cases was sudden, the rest gradual. A prodromal period, MacNalty states, commonly ranges from one to seven days but might be as protracted as three weeks during which occurred lethargy, headache, vertigo, giddiness and diplopia, as well as lassitude, fatigue, vomiting and diarrhea. The onset is usually ingravescent especially in the type with cranial nerve palsies which usually take some time to develop fully and may vary in extent from day to day. Fever occurs in the majority of cases often of low-grade type, other times

severe and prolonged and intermittent and remittent in type. General asthenia gradually becomes pronounced with muscular pains and occasional twitchings. Cranial nerve palsies may be distinct. Ophthalmoplegia, external or internal may be distinct with ptosis symmetrical or asymmetrical, complete or incomplete. Paralysis of accommodation and corresponding indistinctness of vision or diplopia, Wilson found a frequent and early symptom. Involvement of lower cranial nerves to a variable extent is not uncommon; facies often expressionless; obliteration of facial lines; palate, tongue, larynx and pharynx may have transient implication. Pupils may be contracted, dilated and fixed or normal.

Of the general symptoms, indifference, inaptitude, oblivious to surroundings, drowsiness, lethargy and stupor is in one degree or other a feature from the onset, occasionally the lethargy appears later in the disease. After a variable period, the stupor may be replaced by extreme restlessness alternating with apathy. One is impressed by the fact that the patient in the lethargic state responds quite correctly when spoken to in word and act and takes nourishment as often as presented to him unless dysphagia is distinct. Speech may be affected and may be droll, slurred or rapid or may suggest an aphasia. Retention of urine may occur but usually incontinence is present at sometime as also of feces. Hyperidrosis is pronounced and may be associated with a miliaria eruption. Tache cerebrale was pronounced in my first case. Distinct rigidity of neck muscles or only a resistance may be present associated with pain. A suggestive Kernig may be evident but Babinski, Brodzinski, Oppenheim, Gordon and Chaddock were negative in my cases. Delirious attacks and Cheyne-Stokes breathing may occur, especially if the medulla becomes involved making prognosis most grave (Case 3). Constipation is present in most cases.

Vaidya found the average leucocyte count, 7600 per c.mm. and relative cellular proportions normal. An occasional higher count was accounted for by a complication. Spinal fluid was clear in all cases, without coagulation on standing but in two of my cases, showed increased tension. Spinal fluid protein was never more than slightly increased. Cell count normal or slightly increased and type of cell always lymphoid. Pothier found a definite pleocytosis of the lymphocytic type in cases at Camp Lee, Virginia.

Various types of the disease are classified by MacNalty. (1) A type displaying general dis-

turbances of the functions of the central nervous system but without localizing signs. (2) Types with nervous localizing signs: (a) affection of 3rd pair of cranial nerves, (b) affections of brain stem and bulb with localizing lesions of other cranial nerves, (c) affections of the long tracts, pyramidal, prepyramidal and upcoming afferent tracts, (d) ataxic types, (e) affections of cerebral cortex, (f) types indicating some evidence of spinal cord involvement, (g) polyneuritic type. (3) Mild or abortive types with or without localizing signs in central nervous system.

Course.—Of disease varies greatly in typical cases, it may end fatally in a few days or be prolonged for weeks or months.

The stupor may last but two or three days or often two to five weeks. I have been informed by a member of Hospital Corps, Camp Custer of a suspected fatal case of encephalitis lethargica being in a stupor for forty-seven days. Altered mentality and cranial nerve palsy may persist. Findlay reports one case with a right sided facial paralysis, ptosis of right upper eyelid, left external squint and a general mental apathy.

Prognosis.—Buzzard states some cases recover completely, others survive the acute stage but carry with them in after life permanent defects due to the morbid process. A certain number die of toxemia or hemorrhage in the acute illness or from some complication. James records a mortality of from 15.8 to 20 per cent., 8 per cent. under ten and 8 per cent. from ten to nineteen. Economo's ratio of mortality was six of eleven cases. Netter, seven out of fifteen; Wilson two out of thirteen; MacNalty collected 168 with 37 deaths; Findlay one of three.

Diagnosis.—The most common error in diagnosis is to attribute the condition to tuberculous meningitis. The cardinal symptoms of lethargic encephalitis are asthenia, lethargy and cranial nerve palsies. Acute poliomyelitis is chiefly a summer or autumnal disease while epidemic stupor has been in evidence in winter and spring.

Prophylaxis.—In conference with Dr. C. C. Slemons, Health Officer of Grand Rapids, it was thought best to institute the same preventative measures as in acute poliomyelitis.

Treatment.—With the etiological factor obscure no specific treatment is recommendable. Eliminative, hydrotherapeutic and hygienic measures are indicated as in any acute infectious fever. Frequent change of position is necessary to prevent hypostasis and decubitus. Spinal puncture relieves the intra-cranial ten-

sion and two of the cases seemed much brighter the following two days. Potassium iodide was administered in moderate doses and urotropin in large doses. The urine was examined frequently to observe any urotropin irritation should it occur. Narcotics were given for restlessness.

Conclusions.—A careful study of cases I and II, one is impressed with the fact that case II probably contracted the disease from case I, the onset similar and course similar but a lower-grade temperature in case II, and that the incubation period was from three to three and one-half weeks. (2) Whether or not this disease is a type of poliomyelitis seems quite a puzzle. In poliomyelitis the appearance of the disease is more rapid and pronounced as contrast to epidemic encephalitis. All three cases have had a gradual onset. I have been unable to trace any evidence of presence of any cases of acute anterior poliomyelitis in this section of Michigan. (3) None of the three cases had suffered a preceding attack of influenza. (4) MacNalty thinks the relationship between poliomyelitis and encephalitis might be comparable to that existing between typhoid fever and paratyphoid.

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"WHAT EVERYBODY SHOULD KNOW ABOUT CANCER."

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DETROIT, MICH.

The State Board of Health of Michigan deserves the credit of being the first to issue a circular for public distribution on the cancer question in 1909, and another one in 1915. These were distributed to physicians, and by

them through the public in order to call the peoples attention to the great menace of cancer, and the need of having it recognized early and promptly treated. First of all it should be understood.

THAT CANCER IS NOT HEREDITARY.

Although it may occur in the same family, this only shows that there may be a lack of resistance to cancer in that family, but it is not transmitted from parent to child.

IT IS NOT CONTAGIOUS.

People living in the same house, doctors and nurses who handle these cases a great deal, never get it that way. I know of no case where a husband or wife both had the disease.

But, I want to qualify this remark myself. The experiments of Gaylord of Buffalo with cancer in fishes seems to indicate that it is contagious. In the Bronx Zoological Garden it has been shown that snakes are peculiarly liable to cancer, and if one snake gets it, all the snakes in that cage die of cancer in a short time, unless the first case is early recognized, and promptly removed.

CANCER AGE.

Cancer occurs especially after the fortieth year. Although cases are frequently reported even younger, as early as twenty, and children especially are subjected to a form of cancer called, sarcoma. Nevertheless, it has been universally recognized that from thirty-five to forty, and over, is the so-called cancer age, and that at this time people must be especially on the lookout for such trouble.

WHAT WOMEN SHOULD KNOW.

A malignant disease affects women especially in the generative organs, of which the breast is one. Any lump, swelling, hardening in the breast during the cancer age is potentially cancer. It may be only a cystic or fibroid growth at the time, but ultimately a cancerous condition will be planted on it. Hence, every swelling, hardening, or tumor, which does not disappear in a few weeks must be promptly removed, not only removed, but no woman can afford to take the chance, but must have the whole breast removed, including the glands in the axilla, because not enough tissue is removed by simply taking out the tumor, and if an effort is made to remove half of the breast, or something like it, the whole breast might just as well be removed. No use talking to me about esthetic appearance, and preventing the wearing of low-necked dresses, when the woman has

such a trouble it is too serious, and all vanity must disappear. It is simply a question of life and death.

CHANGE OF LIFE AND FLOWING.

The vicious notion still persists that when a woman approaches the change of life, she must and does flow a great deal, kind of anticipating the after stoppage. This is entirely wrong. When a woman approaches the change of life she flows no more, if healthy, than at any other time. In fact, it generally becomes scantier, runs over times, skips a month here and there, and finally ceases. If a woman at this time flows longer than usual, and it recurs earlier than her normal period, or a discharge makes its appearance, or if she has a discharge, and that changes in character, becomes irritating or odorous, the probabilities are she is developing a cancer.

She must promptly consult a physician, not one who gives her some medicine, as that does no good, but one who thoroughly examines her case. If the physician does not examine her, simply gives her some medicine, *he is absolutely no good*. She must go to a scientific up-to-date man, who will thoroughly investigate her case and act promptly, as this is the most important thing of all.

WHAT MEN SHOULD KNOW.

Men are more liable to cancer on the face, the nose, ear, lips, eyelids, and any sore, pimple, and wart that develops and does not disappear in ten to fifteen days is liable to be the beginning of a cancer, and a physician should be promptly consulted. Men are most liable to cancer of the abdominal organs, stomach, liver, and intestines, as well as the bladder and prostate. A man who has always had good digestion, and then has trouble with it, who develops flatulency and constipation, with pain in the abdomen, who is inclined to be easily nauseated, and above all, who *looses weight rapidly* is very liable to have cancer develop somewhere in the abdomen. He should promptly seek medical aid and diagnosis. If the physician just treats him with simple remedies, cathartics, etc., that physician is no good. He should be dismissed; he is not up-to-date. A physician should analyze his gastric juice after giving him a test meal. He should have his stomach and abdominal organs carefully X-rayed, and a diagnosis made. The latter is sometimes difficult, and where prompt improvement does not take place, an *exploratory abdominal section* should be made. This in the hands of an experienced surgeon is not dan-

gerous whatsoever, and the malignant growth may be on the posterior part of the abdomen, where it is difficult to make the diagnosis, with the present means in our hands, but where the surgeon with a small opening can clear the case, and easily remove the trouble, if it is not too far advanced. Everything depends on the early diagnosis. When a man in the cancer age has an irritable bladder, trouble in urinating, he should promptly seek medical aid. Men are also especially liable to cancer of the rectum, and when there is troublesome or painful defecation, he should not listen to his friends who say, "Oh, you have got the piles," but should seek the aid of a careful physician, who will make a thorough investigation, and he must insist on that, and not be given some pile salve or suppositories.

IRRITATION DOES NOT CAUSE CANCER.

It is stated in nearly every article you read about irritation causing cancer. I thought I had repeatedly shown up that this is not the cause. If irritation would cause it, everybody would have it. If there is any irritation, it is on the nose by wearing glasses. Has anybody ever seen a cancer start at that place? I never found a physician who would admit it. There are five, or perhaps ten million people in this country wearing trusses, it is claimed. If there is any irritation anywhere, it is where the pad of the truss presses. The skin there is thickened, there is a deposit of pigment, and a constant irritation. Has anybody ever seen a case of cancer develop at that spot? But more than that, with the silly shoes worn by women, as a rule all women have corns. There is irritation with every step day in and day out, year after year. Has anybody ever seen a cancer develop where a corn was, where the irritation has existed for years and years? No, it takes more than irritation to produce cancer.

THE CAUSE OF CANCER IS NOT KNOWN.

It has been suggested that some prenatal cells have been misplaced in the body, and in the course of time being irritated, there develops what we call cancer. Some think it is a micro-organism. I certainly do not know, but I belong to those who believe that the whole history and course of cancer would indicate some kind of infection, that has a very slow lengthy period of incubation. We all do see, how bacteria circulating in the blood, sometimes escape from the blood vessels in the surrounding tissue and there multiply, and develop an abscess, be that streptococcus or

staphylococcus, or any other kind of microbe. So I can see how a cancer germ circulating in the blood can strike some part of the body where the blood vessels are aberrant, irritated or weakened, like they would be in an irritated or lacerated part of the body, or where there was a naevus, or a wart, or scar. How a germ circulating in such weakened part of the arterial or venous system could more easily pass through the blood vessels at this locality, and then multiply and develop into what we call a cancer. Hence, I for one would say, that irritation does not cause cancer, it may be predisposition, but that the cause of is

LACK OF RESISTANCE, IRRITATION, PLUS—?

However, I want to especially appeal to the medical profession.

WHAT DOCTORS OUGHT TO KNOW ABOUT CANCER.

Doctors should know, and I think all good doctors do know, all that is known about it, but that is not enough, for he should have what I have called attention to heretofore, and what I call "Cancer on the Brain." They often forget that one woman out of eight dies of cancer, and one man out of thirteen dies of cancer. They are busy, sometimes very busy, and they are careless. They do not examine the patient as thoroughly as they should. It makes me tired, as the high school girl would say, to have patients come to me with cancer who have had it for a year or two, and have been doctoring all the time. It certainly is a crime and a sin to neglect patients like that. Every person in the cancer age should be suspected of having the trouble, and no physician has a right to jog these patients along without a most thorough and systematic investigation of the case. The doctor may be very busy, and have to hurry to some emergency case when a patient calls upon him with the troubles that are suspicious. He may give that patient some simply remedy, and make an appointment for a thorough investigation in a day or two, and then he should *take his time, and thoroughly investigate the case*, and if he cannot *positively make up* his mind what the trouble is, he *should call in council*, and get all the help he can to make a correct diagnosis. For every doctor should know, that in the present state of our knowledge that only the early diagnosis, and the prompt and thorough removal of the diseased parts, will give the patient any chance.

BIOPSY.

The former vicious practice of removing some of the diseased tissues and examining it micro-

scopically to see if it is cancer, and then leisurely remove it at some later day *is a most vicious practice*, and should be *condemned on every occasion*. The only correct treatment is that I have above indicated in talking of cancer of the breast.

Another thing that makes me perfectly disgusted is to see physicians curetting a uterus, and every general practitioner does that now days, or sewing up a lacerated cervix, throwing away the curettings, or the tissues removed from the cervix. This to me is most vicious. Every tissue removed from a lacerated cervix, or when curetting, should be carefully *examined microscopically*, and many cases of cancer in the very earliest stages can be detected, and the parts then promptly removed, and the patient's life saved. This you might say, is also a kind of biopsy, but the danger of implantation from curetting the parts does not seem to me great, and I have records on hand of patients operated upon many years ago, who are still perfectly well. In fact, I go further, a woman who has a badly lacerated or diseased uterus in the cancer age, who has passed the child bearing period, instead of trying to patch up that diseased and absolutely useless organ, I urge a complete removal of the uterus, and take no chance of the development of cancer, and in some of these cases, I have found cancer cells. In cases of cancer of the fundus, where the cervix seems perfectly healthy, it is difficult to make the diagnosis. Where a woman flows and flows with an apparently healthy uterus, I do not hesitate to remove the organ if she is in the cancer age.

For years I have advocated the question of educating the public on the cancer question. In fact, I have suggested that we have a *cancer day* designated every year, when the ministers should preach in the churches, and the doctors in the different societies and clubs, and the newspapers publish articles on the great menace of cancer. It is apparently getting worse than the question of tuberculosis. I do not know whether it increases, according to statistics it does, but it is more frequently diagnosed than formerly, and it may not be more common than it was years ago, still I firmly believe it is increasing.

In summing up, I would say.

First. Educate the people by lectures and by talks on every occasion about the danger of cancer.

Secondly. Teach the people what the suspicious symptoms are.

Thirdly. That it is the most solemn duty of every physician to make the most systematic investigation in every case, showing suspicious symptoms.

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REPORT OF THE WORK DONE FOR
THE MICHIGAN STATE BOARD OF
HEALTH ON THE MENTAL CON-
DITIONS OF CASES UNDER
TREATMENT FOR VENE-
REAL DISEASE.*

G. F. INCH, M.D.

KALAMAZOO, MICH.

Prostitution, with its resulting diseases, has occupied the attention of society for centuries. All of you are more or less familiar with the different methods employed to attempt to solve this very difficult problem. In the past we have blamed economical conditions, such as poor wages, starvation, over-crowding, and other factors closely related to the life of the individual, but have failed to recognize that often the fundamental cause is in the individual mental makeup and that in a large percentage of the prostitutes we find women of normal physical development and normal instincts combined with intellects incapable of properly comprehending and forming correct judgments and acting accordingly. In fact, a large percentage have intelligences far below the average normal standard and as a result are suggestible and easily led astray.

We have no means of knowing the exact number of confirmed prostitutes in the United States. In 1911 the Vice Commission of Chicago reported 5,000 identified prostitutes in that city and the large cities of the seaboard had a proportionately larger number and of course these figures would be greatly augmented by the addition of those unknown to the authorities. No doubt the number is very large and will be found to have increased astonishingly during the past two years. The mobilization of the great armies has naturally been attended with marked psychological changes in the youths of the nation—the emotions have been heightened and this has had its effect upon girls of weakened mentality, many of whom, under normal conditions, would have remained normal. This increase in the number of prostitutes is a distinct menace to the State, sol-

diers in camp, and especially to our returning soldiers.

It is now becoming recognized that many of the crimes committed by juveniles and adults are committed as a result of mental defects. For example it has recently been proven that chronic drunkenness is a result, in a large number of cases, of feeble mindedness or insanity. Dr. Bowers in his pamphlet "The Relation of Insanity to Crime," states: "A study covering more than 3,000 prisoners has led me to believe that there are a comparatively small number of criminals who deliberately, wilfully, and in a manner wholly responsible, practice crime. On the other hand, I am convinced that there is a very much larger group of more or less mentally defective individuals who are such by the never-changing laws of heredity or through some biological caprice or through the acquisition of disease and who are defined as being anti-social and dangerous elements in society in spite of all the efforts to reform them and this belief has its basis in, and is supported by, clinical facts." In short, we are becoming more and more convinced that vices and crimes are the results of mental aberrations, and we have come, of late years, to look upon prostitution from the same viewpoint. The Massachusetts Commission for the investigation of the white slave traffic found that 51 per cent. of the prostitutes examined were feeble minded. The Chicago Moral Court found in six hundred and thirty-nine prostitutes examined that the proportion of feeble minded was about 85 per cent. and of the one hundred and four sexually immoral girls tested in the Illinois Training School for Girls, 97 per cent. reacted as feeble minded. The New York Probation and Protective Association examined five hundred delinquent girls and found 37 per cent. mentally defective. Dr. Catherine Brannick reports that of the one hundred forty-nine women committed for prostitution to the Massachusetts Reformatory, 42 per cent. were considered feeble minded. Tredgold says "My experience is that about half of the girls admitted into Magdalen Homes on account of 'first fall' are of this feeble minded type." These figures should be sufficient to convince any doubting person as to the mental states of the majority of these women under consideration.

"The reason the feeble minded tend so strongly to become delinquent is that morality depends on two things, ability to foresee and weigh possible consequences for self and others, of different kinds of behavior; and second, on

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the willingness and capacity to exercise self restraint. Every feeble minded woman is a potential prostitute. Moral judgment, like any other form of judgment, is the function of intelligence."

The medical profession has labored under difficulties in the past because of lack of proper methods of determining who is, and who is not, feeble minded. The general public, and to some extent the medical profession have assumed that a feeble minded person is one whose condition is plainly evident. As a county official recently said "I don't know anything about your Binet tests or intelligence quotients but I can determine in a few minutes if a girl is feeble minded." This official would be undoubtedly able to pick out the low grade imbecile or idiot but these are not the ones dangerous to society. They are not so prone to commit crimes and a large proportion of them do not marry or reproduce. So often the higher grade morons and borderline cases are passed by with the remark that they are only ignorant and no consideration is given to the question as to why they are ignorant. It is unnecessary for me to say here that if we decide on a standard of normal intelligence there will be all grades downward from this standard to zero, and upward to the highest mentality obtainable. In the downward scale, theoretically at least, there will be reached a point where the individual shows such lack of intellect that he becomes legally irresponsible and is termed defective. Between this point and the normal will be found cases which we designate as borderline cases. Individuals of this class, and of the higher grade defectives, are the ones who really become a menace to the community and a danger to future generations.

During the past ten or twelve years various tests have been devised for estimating the approximate mental level of an individual. Binet and Simon of Paris were among the first to put forth such tests. Since that time various improvements and additions have been made, the two most important being the Stanford revision by Terman and the Yerkes-Bridges test.

In the beginning of the war our Federal Government saw the necessity of taking active measures to prevent the spread of venereal diseases among the troops, and to aid in this work, called upon the Health Departments, of the various State Governments for assistance. Our State Board of Health, with the assistance of the local boards, took upon itself the duties of examining, first girls employed in places where

they came in close contact with the public; as, for example, in hotels and restaurants; and, second, women detained on account of questionable character. All those found to be infected were cared for locally or were sent to hospitals in Detroit, Bay City, Ann Arbor, Grand Rapids, Kalamazoo, and other places.

The out clinic department of the Kalamazoo State Hospital undertook, at the request of the State Board of Health, the mental examination of those women who were sent for treatment for venereal diseases to the Devore Hospital of Grand Rapids and the Fairmount Hospital of Kalamazoo. Not all women, of course, examined in these two clinics should be considered prostitutes, the majority of them, however, were undoubtedly such. I was assisted in this work by Dr. Eva Rawlings of the Kalamazoo State Hospital, Professor Renshaw, Professor of Psychology at the Western State Normal; Mrs. Cordelia Creswell, Miss Pauline Camp, Miss Alice H. Campbell and Miss Louise Sullivan of the Board of Education of Grand Rapids. We obtained as complete a family history as possible from each woman and this was supplemented by reports from the probate judges and organized charities and in a number of cases from the patient's former school teachers, physicians, etc. One would, of course, be inclined to question the reliability of the histories obtained from these women and no doubt in some instances the information is misleading but on the whole I believe it quite reliable. A rather superficial neurological examination was made consisting of testing the special and general senses, the reflexes and the neuromuscular condition. The condition of the mentality was based on the family history, ability to get along in school, success in places of employment and the general reaction to environment, as peculiar mental attitudes, delusions or hallucinations, etc., and lastly by estimating the native mental capacity by means of either the Terman or Yerkes-Bridges tests and various performance tests as devised by Healy, Pintner-Patterson and others.

There were 139 cases in all. Their ages varied from 16 to 46, the majority of the women being in their early twenties. Of this number two were undoubtedly cases of Dementia Praecox; two were Psychopathic; thirty-two mentally dull; fourteen were borderline cases; fifty-seven were morons or imbeciles; thirty were normal and two were not diagnosed. Three of the morons had general paresis also and three had epilepsy. This shows 41 per cent. of

the total number examined were morous or imbeciles, and if we include in this the dull and borderline cases, the psychopathic and the insane there would be 76 per cent. of those examined below par mentally.

Twenty-eight of the one hundred and thirty-nine claimed to have had sexual relations only after marriage and the majority of these stated positively that they contracted a venereal disease from their husbands. After careful examination of the histories one might be reasonably well satisfied that thirteen of the twenty-eight were telling the truth so that would leave one hundred and twenty-six prostitutes. This would therefore give us 46 per cent. as morous or imbeciles and 84 per cent. below the average mental standard.

Of the number examined seven were telephone operators; two messenger girls; forty-two waitresses; thirty domestics; eleven clerks; twenty-four factory workers; eleven housewives; six laundry workers, and six had no occupations. The lowest wages received were \$2.00 per week and board and the highest \$3.00 per day without board the latter working in a munition factory. No attempt was made to find out the definite religious affiliation of the parents excepting to divide them in groups of protestants and catholics. Fifteen per cent. of those examined were brought up in the catholic faith and the others were either protestants or their religious affiliations were unknown. Ninety-two, or 66 per cent., of the one hundred and thirty-nine women had been married at one time, a great many of them having separated from their husbands. Among the one hundred and thirty-nine women there were one hundred and eighty pregnancies which resulted in one hundred and six living children; forty-two miscarriages; thirteen deaths at birth and nineteen children who died in early infancy.

The reasons given for their detention by the authorities are as follows: Thirty-six were detained on suspicion because of frequent association with soldiers; seventy-two were in public service when examined and found to be infected; fifteen were arrested because of being suspected prostitutes; six were reported by physicians; two were examined because their husbands were found to be infected in camp; two were arrested during raids on questionable houses; two were reported by their husbands and one was arrested because of family trouble, it being necessary to call the police. One was detained for selling liquor and one was taken from a hotel on the charge of adultery.

One hundred and six gave a definite history as to when the first sexual experience occurred. One was twelve years of age; three were thirteen; seven were fourteen; nine were fifteen; nineteen were sixteen; fifteen were seventeen; eighteen were eighteen; nine were nineteen; nineteen were twenty; four were twenty-one; two were twenty-three. Fifty-nine, or 44 per cent., gave a history of having the first sexual experience either with their intended husbands or after marriage. The probable cause of the first immorality was given in one hundred and eleven cases. Thirteen were taken advantage of by their intended husbands; forty-six claim to have been seduced by others than their intended husbands; twenty-one state they were assaulted; ten took to this life because of unhappy marriages; thirteen did so to make a living and eight were immoral because of separation from their husbands. Fifty-one, or 36 per cent., gave a history of charging for their services, and of these the majority had no definite schedule, obtaining as much as possible, anywhere from two to fifteen dollars. Fifty-four stated they followed the life of prostitution because of pleasure and companionship. Undoubtedly, a larger number than admitted it received money as the majority of them seemed more reluctant to give this information than anything else pertaining to their lives.

Forty-nine gave a definite history of syphilis. One hundred and twenty-four had a Wassermann test of the blood and of this number thirty-four, or 28 per cent., had positive syphilitic reaction. One hundred eleven gave a history of gonorrhoea. One hundred and twelve gave some information as to the source of infection; thirty stated they obtained syphilis or gonorrhoea from their husbands; eighty-two admitted they were so promiscuous in their relationship with men that it was impossible to say where they obtained the disease. Only five admitted they were diseased by soldiers.

It is impossible, with the small number of women examined, to come to any definite conclusions. One is impressed however with the fact that many of these girls, to the casual observer, present a normal appearance; that is, they are neat in their dress, possess a good memory, and to a certain extent keenness and cunning in looking after their well-fare, but lack comprehension and judgment and are abnormally suggestible. These are defects, especially when combined with increased emotional excitability, which lead to delinquency.

One notices also that a considerable per cent.

fall within the dull and borderline groups. These are sometimes spoken of as the constitutionally inferior, and we have found as others have found, a considerable number of the clandestine or occasional prostitute falls within this class.

Probably not more than 41 per cent. of those examined could be committed to the home for feeble minded. These undoubtedly should be cared for as rapidly as possible. Unfortunately, at present the State has not sufficient room at Lapeer. Granting that these could be cared for, there would still be a number who cannot legally be committed and are especially dangerous as disease carriers and undesirable mothers for future generations. These, I believe, should be cared for in some institution where they could be made wholly or partially self-supporting.

It seems to me to be the duty of the State to see that all feeble minded girls and boys are committed to an institution, and I believe this especially necessary for the higher grades of the mentally defective. Unsexing of these cases would be desirable in preventing propagation of their kind, but would not prevent and might increase the vice that we are particularly interested in at this time. Second, psychopathic inferiors should be kept under strict supervision and if these measures were carried out prostitution would, with its attendant diseases, be greatly diminished.

VENEREAL TREATMENT OF STATE CASES—FAIRMOUNT HOSPITAL.*

WALTER DEN BLEYKER, M.D.
KALAMAZOO, MICH.

As the treatment of the venereal cases at Fairmount are all followed up from a bacterial standpoint, it is possible to draw some conclusion from the work being done.

The gonorrheal cases are first put under treatment for one month and then the slides for bacterial examinations are taken. The patients are required to have series of five negative slides in succession from the cervix, Bartholin glands and the urethra. These slides are taken every other day and if any of the regions show a positive the slides are discontinued for ten days. The series is then begun over again.

Many times the patient will have a series of four negatives in a row and then will show a

positive from one of the regions. This prolongs the treatment for about three weeks at least.

The technic consists of first shaving the vulva so that there is less liability of contamination of the external parts.

The treatments are given in a dorsal position with the legs elevated. They consist of first, douches. Second, local treatments (direct method) and third, vaccines.

The douches are given twice daily of one and one-half quarts of a 1½ per cent. creosol solution followed by a small douch of 1-1000 Pot. Permanganate solution.

The direct treatments are given every second day. A Bi-valve speculum is used bringing the cervix into view. The cervical canal and the cervix are painted with 3 per cent. tincture iodine on a long applicator. Then a large cotton sponge is dipped into a 50 per cent. solution of iodine with water. The vaginal vault is swabbed and the speculum withdrawn. Then the large sponge is slowly withdrawn from the vagina. This wipes out the vaginal tract. The vulva is then swabbed with the same iodine solution. Next 2 c.c. of a 2½ per cent. of protargol solution is injected into the urethra.

A mixed gonorrheal vaccine is given every five days.

The treatments have been continued throughout the menstrual periods without any bad effects of any kind. There has been no increase or decrease in the periods during the treatment as far as we could observe. In the cases that have been under treatment there has been almost an absolute lack of cystitis. There has been only one case and she had a marked hemorrhage from the bladder. She gave a history of bleeding from the bladder. A cystoscopic examination had been made on this case and I was told that the bladder was very much congested and that there was some suspicion of malignancy. Her treatments were discontinued for a short time only. The following chart shows the conclusion on twenty-five cases.

Treatment of the syphilitic cases consists of the injection intravenously of some Arsenol Benzol preparation. These injections are given every seven days for six weeks. During the same time they also receive a deep hypo of 2 gr. of Mercury Salicylate every five days. If at the end of six weeks they show no open lesions they are discharged from the institution but are kept under observation.

*Read before the Kalamazoo Academy of Medicine, February 11, 1919.

Age	Social St.	Path.	Time of Treatment	Most Persistent region
21	Married		80 days	Cervix
20	Single		61 days	R. B. S.
19	Single		68 days	L. B. S.
18	Married		89 days	Urethra
36	Married		81 days	Cervix
21	Married	pus tubes	85 days	Cervix
43	Married	cystitis	71 days	Cervix
26	Married		75 days	Cervix
22	Married		64 days	Cervix
21	Married		63 days	Cervix and glands
17	Single	vulvo-vaginal abc.	120 days	Cervix
23	Married		68 days	Cervix
26	Married	laceration Cer.	75 days	Cervix
27	Married		68 days	Urethra
30	Married		54 days	All regions negative
18	Single		51 days	All regions negative
21	Married		45 days	All regions negative
21	Married		56 days	Cervix
42	Married		55 days	Cervix
24	Married		39 days	All regions negative
16	Single	Flu 21 days	61 days	All regions negative
15	Single		55 days	All regions negative
21	Married		52 days	All regions negative
24	Married		50 days	All regions negative
Average length of time of treatment 64 days.				

DISCUSSION OF DR. INCH AND DR. DEN BLEYKER'S PAPERS.

DR. A. H. ROCKWELL: These papers have shown some very instructive and interesting work. Has observed the findings in Detroit as to the Hospital phase and the work here compares favorably, especially as to the time confined in the hospitals, particularly in those cases where the tubes are involved. The technic is well worked out. The work at the hospital by the nurses is carried out in a very gratifying manner. The administration of the arsenic preparation is not done by the nurses, but by the physician in charge.

DR. STONE: One of the most important things brought out in Dr. Inch's paper is the comprehension of the fact that the mental state of prostitutes is in so large a percent subnormal, this means considerable in the solution of the problem. There recently died in France, Dr. Grasset, who advocated that borderline cases should be segregated and not allowed to propagate their kind. Recently an account appeared in the newspapers of an investigation of the Adrian Home for Girls. These are almost all of an inferior type and the report of Dr. Barrett four years ago can be found in a printed report to the State, here an account of every case in the Adrian home is given and a large percentage come under the subnormal mental type. What is the solution? It is nothing more or less than the prohibition in the propagation of that species. This

subnormal mental type is propagated through generations and the same theory carried further would show that borderline cases would run along in the same way. It is a mistake to consider that the cases will improve and return to normal, they are amenable to the laws of Mendel. It is foolish for these to be sent to the Courts for punishment when they are below the responsible degree of mentality. Told of a case of inferior mentality, which married several times, and had several subnormal children, later in life she became a prostitute, was investigated and sent to an institution for feeble minded. She should have been taken care of earlier in life, thus avoiding the continuance of her type.

PROF. PRAEGER: I cannot discuss this subject from a medical standpoint. The suggestion has been made that even slight subnormal conditions of the mind can be identified as unit characters and that they can be treated in heredity as if they were Mendelian. I hardly think we are far enough in our knowledge of human heredity to be confident of this. The mental states that lead to prostitution must be very varied and complex. We know as yet very few human attributes to which Mendel's principles apply; nor does it seem to be a universal law among organisms with whom we have experimented. Of course, as a general fact, heredity is of tremendous importance. The position of women has changed greatly, especially as a result of the war. Old customs and conventionalities that governed

the social life of men and women have largely disappeared this produces a serious condition, especially at the adolescent period. We must find a new social convention to help our boys and girls under the new conditions.

PROF. RENSHAW: I have listened with great interest to Dr. Inch's paper and appreciate your kind invitation to comment briefly upon it. During the Holidays it was my privilege to spend some time with the Ohio Board of Juvenile Research at Columbus, of which Dr. H. H. Goddard is now director. There, Dr. Goddard and a score of highly trained specialists are to be quartered in a new \$90,000 building devoted entirely to this kind of work, and it may be said that Ohio is doing more in the way of actively subsidizing medical and psychological research in mental deficiency and allied lines than probably any other state at present.

Professor Praeger in his comment, voices a doubt as to the certainty of morosis as a unit character and its strict adherence to Mendelian principles of inheritance. Early in his work in New Jersey, Goddard held this same view, but was forced to abandon it after an exhaustive study of the histories of more than 324 families with their 1752 offspring, in which he discovered, much to his surprise that where one or both parents were simplex or null-plex the actual number of moron siblings was 708, while according to Mendel's law the theoretical expectation was 704. And in the same families the actual number of normal findings was 348, against expectation of 352. In fine, he says we are dealing with "a condition of mind or brain that is transmitted as regularly and as surely as color of eyes or hair."

One further point. The compulsory education laws of the State of Michigan require every child between the ages of 5 and 16 to attend the public elementary schools. The schools thus become the natural and logical filters through which every child must pass, wherein through proper and adequate medical and psychological inspection, we should be able to know and to index and follow up each case of prostitution and criminality resulting from defects by deprivation that are congenital and if one may venture the assertion in course of say 20 or 25 years, would tend to materially lessen the danger from this source. The men of science of this state need to begin active propaganda to bring these things about. Next to nothing is being done or appropriated at present, except in a small way, of a controlling or preventative nature. The moralist has had his fling at the problem with little discernible effect. It would seem, therefore, to be the time for us to attack from another angle.

DR. CRANE: One point which should be considered along this subject. In Australia the worst offenders of the English Government were segregated, but yet the inhabitants of those islands today are of average mental type and ability. Another island, the Pitcairn island, a place where the worst cut throats and criminals are sent. These also be-

came of average intellectual and moral standard. These things emphasize that we should be open minded and careful in dealing with this subject.

DR. JACKSON: These papers show the necessity of proper Legislation. Michigan has not at this time proper facilities for caring for these people and every member should use all his influence to get the support of the Legislation in the solution of the problem, now being the psychological time to strike. Does not wish to enter into the scientific aspect, but wishes to point out that a great deal of good has already been done, and if these girls are feeble minded, as reported by Dr. Inch, and we stop with the work now, our duty is only partly done. We should urge continuance of the work by the State.

DR. INCH: Wishes to emphasize what Prof. Renshaw has stated about the necessity of the work in the schools. No doubt that in 25 years we will know where each individual is classified and the problem will be more nearly solved. He did not say in this paper that all feeble minded became prostitutes, but they are potential prostitutes. By prostitutes he does not mean the women who occasionally go wrong, but the habitual wrong doer. We know that feeble minded do produce feeble minded children. If a feeble minded person marries a normal person a certain proportion of the children will be feeble minded. Dr. Crane spoke of the situation in Australia and the Pitcairn islands. That may have been a different kind of crime. Some of Englands brainest men have been sent to these places.

THE COMPLETE MUSCLE OPERATION IN PRIMARY AND SECONDARY PERINEORRHAPHY IMMEDIATELY FOLLOWING LABOR.*

CHARLES E. BOYS, M.D., F.A.C.S.
KALAMAZOO, MICH.

The purpose of this paper is to study a group of cases of complete repair of the perineum immediately following the labor, for old lacerations with no fresh tears at the time of labor as well as those with different degrees of laceration at the time of labor. Most text books of today either do not mention this procedure at all or condemn it, and in essence advise a repair of the perineum which consists of little if anything more than a passing of a through and through suture from mucous membrane under the tear and out on the opposite side bringing back the raw edges and the mucous membrane surfaces into approximation. It has for some-time been the writer's belief that this type of repair is entirely inadequate in a large percent of the cases and that the failure following this

*Read before the Kent County Medical Society, Jan. 8, 1919.

type of repair is because the muscles having been torn in the perineum have retracted toward their fixed point of origin so far that they are buried in the loose cellular tissue which surrounds them. There is, in fact, therefore, only a union of this cellular tissue without the muscle structures or fascia.

By the term "Muscle Operation" is meant an operation in which a denudation is made extensive enough to actually expose the muscles with their accompanying fascia and then reunite this wound by layers the same as the layers would be united in a hernia operation or in an abdominal incision.

The technic employed is as follows: (1) Patient in lithotomy position on the table (never on a bed). (2) Surgical degree anesthesia. (6) Use rat tooth forceps to pick up muscles to prevent crushing them. (3) Prevent bleeding from the uterus into fresh tears by large pack invagina. (4) Trim away all devitalized tags of tissue (debridement) (5) Denude then laterally on both sides with scissors or fingers until muscles are well exposed. (7) Suture the edges of the muscle and fascia with Chr. c. g. No. 2. (Deep suture into the muscle favors pressure atrophy and reduces its elasticity). (8) To obliterate the rectocele remove an inverted V-shaped piece of vaginal mucosa after separating it from the rectum by blunt dissection. (9) After the muscles are united the wound is then closed by a single continuous Chr. c. g. No. 2 suture from the point of the inverted V-shaped wedge clear down to the past part of the opening in the perineum. Be sure to pass an occasional suture deeply enough to obliterate all deep spaces. (10) Asepsis must be of the same grade as for abdominal operations.

While it is common practice to suture fresh lacerations of the perineum there seems to be a very general objection to the repair of an *old* laceration at the time of labor. It is the author's idea that we should expect just as good results in repairing an old laceration at the time of labor as in repairing a fresh laceration at the time of labor. The chances of infection are less than they would be in the fresh tear because the manipulations incident to delivery which causes the tear would introduce infection into the unintended laceration more than infection would be introduced into the laceration that was made purposely on the part of the surgeon incident to the repair.

Objections which might be raised against this type of procedure would be (1) Danger of in-

fection. (2) Mechanical disadvantages, due to oedema, hemorrhage and lacerated tissues. The advantages which suggest themselves are (1) Saves dread, pain and extra expense of later operation. (2) Saves time for both patient and hospital, thus increasing the hospital efficiency. (3) The operation is often never done if not at the time of labor. (4) It prevents the formation of much scar tissue. (5) More important still, prevents the atrophy of the perineal muscles and a corresponding loss of function.

The material used in this study consists of 41 consecutive cases of fresh lacerations including three of the third degree, operated as described, immediately after labor. It further includes 20 consecutive cases not lacerated at the time of labor, but in whom old tears existed and where the complete muscle operation was done immediately after the baby was delivered. Two of these were third degree lacerations of several years standing. Further, as a control, 41 consecutive cases were also studied in which no operation at all was done following delivery. In all these cases no special attempt was made to eliminate vaginal examinations. Several were bag cases and different sort of manipulative and operative delivery were employed, including vaginal Caesarian section. Several of the cases were in homes.

SUMMARY OF PERSONAL CASES.			
Consecutive cases of laceration operated at time of labor.	Primary Operations	Secondary Operations	Consecutive normal and operative un-repaired cases of labor.
No. less than 3rd deg.	38	18	
No. 3rd degree.....	3	2	
Total.....	41	20	41
No. op. deliveries....	14=35%	3=15%	
Avg. length of labor..	12.5 hrs.	7.5 hrs.	10 hrs.
No. cases with fever over 100 deg. after fourth day:			
1 day.....	5=12%	1= 5%	2= 5%
2 days.....	2= 5%		2= 5%
3 days.....	3= 7%	1= 5%	
4 days.....	1= 2.5%		
5 days.....			1= 2.5%
6 days.....	1= 2.5%		1= 2.5%
7 days.....			
10 days.....	1= 2.5%		
Total.....	13=31%	2=10%	6=15%
Anatomical results—			
Good	39	20	
Fair	2		
Complications—			
Wound suppnration.	2	1	
Wound suppnration and phlebitis.....	1		

Summarizing the following observations are made:

1. The febrile reaction following the complete repair of the perineum at the time of labor is due more to the delivery than to the repair. This is shown by the fact that the temperature ratios advanced in proportion to the duration of the labor and the percentage of operative deliveries. The 41 *unrepaired* cases show a higher morbidity than those where secondary operation is done at the time of labor.

2. The complete muscle operation in the repair of fresh tears at the time of labor is a justifiable procedure in that 69 per cent. had an entirely normal recovery, 26 per cent. had only a slight febrile reaction and in only 5 per cent. did complications of any importance occur, and in these the ultimate result was satisfactory.

3. The secondary repair of the perineum by a complete muscle operation immediately following labor is a safe procedure as far as it is related to infection, and the mechanical difficulties call for only a slightly added patience and skill.

4. The anatomical results in both primary and secondary repair of the perineum at the time of labor are as good or better than those in late operation.

5. It is believed that the percent of complications in the secondary operation at the time of labor will compare very favorably with those of the late operation.

6. There were no deaths in this series of cases.

SITUS TRANSVERSUS AND EXTRAUTERINE PREGNANCY.

SIMON LEVIN, M.D., F.A.C.S.

Member of Calumet & Hecla Mining Company Staff.

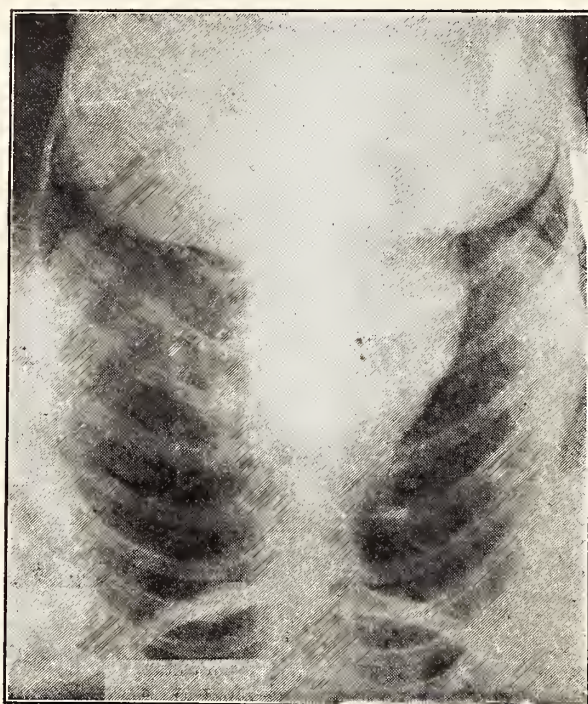
LAKE LINDEN, MICH.

I wish to make this report because of the infrequency of situs transversus in the ordinary practice, and its association with an extrauterine pregnancy. Again, it may be very perplexing in deferential diagnosis of left tubal pregnancy with rupture, rigidity of the rectus, temperature of 99.6 degrees F., and increased pulse rate, when we have a situs transversus, as it is in case of right tubal rupture with a normally located appendix. Furthermore, when we have a female patient with pain in the left hypogastrium, rigidity and the other signs of localized inflammation with the physical signs extending to the left pelvis, do not jump at the conclusion that you are dealing with a

salpingitis, without making a chest examination to locate the position of the heart. Cholecystitis and cholelithiasis would have an added perplexity when it occurred in the left side instead of the usual location. This was demonstrated in the case of A. W. Horn's, described in February, 1915, (*Annals of Surgery*). The X-ray removed all doubt as to the diagnosis before the operation.

On account of the dangers of misdiagnosis and its consequences, besides the anatomic anomaly, I present the following case:

Mrs. N. G., white, 24 years of age, married two years; never pregnant before. Husband is living.



Family History.—Negative.

Personal History.—Had measles while young with no sequelae. Menstruated first at thirteen years, regular, q. thirty days; flowed three to four days, very moderate.

Had cramps during flow of each period. During the interval she had moderate leucorrhoea. Suffered from no other disease before marriage, which occurred at 22 years of age. One week after marriage became quite ill with a double salpingitis and Bartholin gland infection caused by the "cured" Neisser Diplococcus infection of the husband. She remained in an elevated bed position two weeks recovering nicely with the exception of a more profuse leucorrhoea. Since fall of 1915 has been quite strong. Bowels and kidneys were normal.

Present Disease.—Menstruated regularly q. 30 days till March 4th to 8th, 1917. Then she did not flow till April 17, 1917. On the 5th of April she thought that she was pregnant on account of delayed period and nausea. Had no pain. Metrorrhagia was present in a slight degree each day, or on alternating days till 4 a. m. May 6, 1917, when she had a very severe cramp in the abdomen, low down, more to the left side. Vomited once during pain. By taking enema, pain disappeared. Metrorrhagia kept up, patient feeling well except for a little weakness till 1 p. m. May 9, 1917, when she suffered from severe cramps distinctly in the left lower abdomen. For a few hours before, there had been intermittent cramps of a few minutes duration but the one described above lasted thirty minutes. With this she felt a distinct bearing down sensation.

Physical Examination.—I knew of her Dextrocardia, and took in consideration the possibilities of transposed abdominal viscerae, especially the possible left appendicitis. I found the patient lying on a bed on her abdomen, fully dressed. Was moderately nourished; mouth, neck, lungs were all negative. Pulse, 85. Temperature 98.6 degrees F. Heart dullness was on the right side of the chest instead of on the left with the apex in the fifth interspace, left of the nipple line. Valves were all normal. Heart dullness and location of heart sounds were on the right side mirrored as it were corresponding to the usual similar position on the left. The question arose, Did we have a situs transversus?

The abdomen was negative except for a tenderness in the lower left quadrant with moderate rigidity of the left rectus. Lower one-half of the abdomen raised above the upper one-half, appearing bloated. The tenderness was more marked on deep pressure.

Pelvis.—Perineum good. Cervix softish, body of the uterus softer and slightly increased in size, and retroverted. Right pelvis negative.

Left pelvis contained a tender roundish mass, unelastic, left of the uterus, size of a large walnut, which patient says was the tender spot. Left ovary was not palpable separately.

Urine.—1.020, acid, albumen negative, sugar negative.

Blood Pressure.—Systolic 120.

Diagnosis.—Left tubal pregnancy, ruptured; and a probably situs transversus.

Operation.—Laparotomy, 6:50 p. m., May 9, 1917. Ether administered. I made a median incision and found the abdomen contained

much clotted blood and the pelvis, one pint of bloody serum and many old blackish clots. The omentum hugged the left Fallopian tube and the lower left parietal peritoneum. We had here a left tubal pregnancy, isthmus and ampulla involved, size of a horse chestnut, $2\frac{1}{2}$ in. by $1\frac{1}{2}$ in. It was ruptured near fimbria.

I excised the entire left tube. The abdomen was well cleared of the blood clots. On examination of the abdomen I found the liver on the left side with the easily emptied gall bladder resting under the left lobe at the left costal border, the small right lobe being in the epigastric region. The caecum rested in the left iliac fossa with the appendix. The latter was not adherent but larger than normal and on account of possible future difficulties in diagnosis I removed it, using an invaginating Brand Purse-string of linen for the stump. Abdomen was closed layer by layer with no drainage.

She made an uneventful recovery, leaving the hospital on the tenth day and was up on the twelfth. I have seen her several times since and she has been perfectly well.

Accompanying this report will be found an X-ray of the chest.

TWO THOUSAND SEVEN HUNDRED SIXTY-TWO INDUSTRIAL ACCI- DENT CASES CLASSIFIED.

E. I. CARR, M.D.
LANSING, MICH.

These cases are consecutive and from a period antedating the present well equipped first-aid stations with full time nurses that most of the manufacturing plants have today. They represent practically all accidents occurring in several of the large Lansing factories who are mostly engaged in the manufacture of engines, automobiles and automobile parts. From the period chosen all injuries were supposedly sent in for examination and necessary treatment, so that many conditions ranging from the trivial abrasion to the serious crushing accident or alarming subsequent infection are included. If the cases of a recent period that reached the surgeon were incorporated in this group the following classifications would be altered because the competent nurses in the factory dressing stations now ably care for many simple injuries. A fairly comprehensive estimate may, therefore, be obtained from studying the following of what accidents are happening and what parts of the body are being injured in

these machine, wood, forge, paint and other shops necessary for the manufacture of engines, automobiles and automobile parts.

I. ANATOMICAL CLASSIFICATION.

Hands and fingers	1,303
Feet	241
Head	134
Trunk	207
Arms	191
Legs	150
Eyes	532
Gas suffocation	3
Electrocution	1

2,762

II. DIAGNOSTIC CLASSIFICATION.

Fractures	108
Contusions, lacerations, cuts and abrasions	919
Amputations	52
Dislocations	8
Infections	414
Burns	158
Sprains	59
Bruises	208
Puncture wounds	154
Strains	130
Foreign bodies	528
Hernia	20
Suffocation	3
Electrocution	1

2,762

III. ANATOMICAL CLASSIFICATION DISTRIBUTED.

Hands and fingers—

Fractures	28
Lacerations, contusions, cuts and abrasions	660
Amputations	44
Dislocations	3
Infections	338
Burns	32
Sprains	10
Bruises	113
Punctures	60
Strains	2
Foreign bodies	13

1,303

Feet—

Fractures	17
Lacerations	50
Amputations	4
Infections	28
Burns	36

Sprains	2
Bruises	36
Punctures	68

241

Head—

Fractures	7
Cuts	81
Infections	10
Burns	21
Bruises	15

134

Trunk—

Fractures	17
Abrasions	16
Dislocations	5
Infections	2
Burns	7
Sprains	6
Bruises	13
Punctures	3
Strains	117
Foreign bodies	1
Hernia	20

207

Arms—

Fractures	17
Lacerations, abrasions and cuts	81
Amputations	2
Infections	25
Burns	24
Sprains	17
Bruises	9
Punctures	6
Strains	9
Foreign bodies	1

191

Legs—

Fractures	22
Contusions	31
Amputations	2
Infections	11
Burns	13
Sprains	24
Bruises	22
Punctures	16
Strains	2
Foreign bodies	7

150

Eyes—

Burns	25
Punctures	1
Foreign bodies	506
	<hr/>
	532

Contusions, Lacerations, Cuts and Abrasions—

Legs	31
Trunk	16
Head	81
Feet	50
Fingers	660
Arms	81
	<hr/>
	919

IV. DIAGNOSTIC CLASSIFICATION DISTRIBUTED.

Fractures—

Legs	22
Trunk	17
Head	7
Feet	17
Fingers	28
Arms and forearms	17
	<hr/>
	108

Dislocations—

Shoulders	5
Fingers	3
	<hr/>
	8

Amputations —

Legs	2
Arms	2
Toes	4
Thumb	7
1 finger	21
2 fingers	11
3 fingers	4
4 fingers	1
	<hr/>
	52

Burns—

Trunk	7
Legs	13
Feet	36
Hands	32
Head	21
Arms	24
Eye	25
	<hr/>
	158

Infections—

Toes	28
Fingers	338
Arms	25
Legs	11
Head	10
Trunk	2
	<hr/>
	414

Bruises—

Hands	113
Feet	36
Legs	22
Trunk	13
Arms	9
Head	15
	<hr/>
	208

Sprains—

Arms	17
Legs	24
Hands	10
Feet	2
Trunk	6
	<hr/>
	59

Strains—

Hands	2
Trunk	117
Arms	9
Legs	2
	<hr/>
	130

Puncture Wounds—

Arms	6
Feet	68
Hands	60
Legs	16
Trunk	3
Eye	1
	<hr/>
	154

Foreign Bodies—

Eyes	506
Hands	13
Legs	7
Trunk	1
Arm	1
	<hr/>
	528

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

A. L. Seeley, ChairmanMayville
 E. W. TolesLansing
 R. S. BucklandBaraga

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 On Leave of Absence on Duty
 Medical Reserve Corps, U. S. A.
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 Secretary Editor, pro tem.

All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscription are to be addressed to D. Emmett Welsh, M.D., 4th Floor Powers Theater Building, Grand Rapids, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

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April

Editorials

ANNUAL MEETING

Place—Detroit.

Time—May 21-22.

Host—Wayne County Medical Society.

Program—One of the very best.

Features—Victory meeting.

Attendance—The best.

The following have been appointed on the Committee of Arrangements:

Doctor F. B. Tibbals, Chairman, Kresge Medical Bldg. Doctor John N. Bell, David Whitney Bldg. Doctor L. J. Hirschman, Kresge Medical Bldg. Doctor E. W. Haass, Fine Arts Bldg. Doctor Harold Wilson, David Whitney Bldg.

The following members were appointed Chairmen of the various Sub-Committees:

Dr. Louis J. Hirschman, Committee on Hotels, Halls and Meeting Places and Registration.

Dr. Harold Wilson, Committee on Entertainment.

Dr. E. W. Haass, Committee on Finance.

Dr. Guy L. Connor, Committee on Automobiles.

Dr. E. H. Sichler, Committee on Printing, Badges, Posters.

Dr. John N. Bell is Secretary of Committee on Arrangements.

The Chairman has appointed Dr. R. L. Clark, Chairman of the Committee of Exhibits.

MEMBERS ATTENTION.

The time for the payment of the State Society dues has been extended to May 22. Those failing to pay their dues before that time will be placed on the suspended list and removed from the mailing list of the *Journal*.

Those failing to pay their State Society dues by May 22 cannot secure tickets to the entertainment functions of the Annual Meeting to be held in Detroit May 21 and 22.

DEBRIDEMENT.

One of the foremost terms that will be frequently resorted to in discussing the surgical treatment of war wounds is debridement. While the word has been somewhat foreign to our surgical nomenclature in America the principle that it implies is not by any means new or revolutionary. The excision from a wound of lacerated devitalized and infected tissues and the removal of all foreign material found has been practiced and applied on many occasions during pre-war times. It has possibly not been utilized so extensively nor did any one or group of surgeons find themselves confronted with such large series of cases to study and witness the end results that accrued following its application. Its basic principle is sound and as one continues in closer contact with conditions in which it has been applied the opinion becomes more firm in regard to its efficacy.

Still, one must familiarize himself with the steps of the technic ere recommending or condemning the method and not speedily conclude that its surgical potency lies wholly in a reckless and cold excision of a wound area and be-little anatomical structures or functional re-

sults while so doing. There is called forth the exercising of surgical skill based on a thorough knowledge of anatomical relationship if one is to secure the desired results while employing this procedure. Then, too, the post operative care demands equal knowledge of basic principles lest the whole procedure become one of harmful interference.

I am becoming more inclined to the opinion that the good that will and can be accomplished by debridement is very frequently nullified by improper and misdirected after care. The greatest and most common pitfall being the prolonged irrigation and drainage of the resulting wound. By doing so one may gradually secure the filling of the wound with granulations and see this repair process slowly take place until the wound becomes filled up to the dermal layer. It is then that an arrestment of repair takes place. The wound seemingly becomes dormant and no amount of stimulating applications of Balsam of Peru, Nitrate of Silver, moist boric or iodine applications will induce dermatization and completed healing. On the other hand secondary infections, the formation of abscesses and sinuses are prone to ensue as complications and tax one's ingenuity while at the same time discourage one from employing the method on future occasions.

Prolonged reflection on this possible aftermath has lead me to believe that it is a condition that can readily be avoided if one remembers the physiological process that ensues during nature's effort to restore continuity of soft tissues. The necessity exists for each to familiarize himself again with the physiology or pathology of repair.

To summarize the factors that tend to induce failures I present in tabulated form the following:

1. Granulations promptly form in the deeper parts of the wound and become richly intermeshed with elastic tissue.

2. The drainage tubes, irrigation and packing produce a wide gaping wound that must be filled with granulations but which on the other hand are prevented from forming rapidly by their presence, especially after the wound has become half filled.

3. The delayed removal of this drainage material so retards new granulations that the first formed granulations have time to receive

their deposits of fibrous tissue. This fibrous tissue likewise promptly follows its reparative function and contracts and in due time brings about normal cicatricial tissue that is scant in blood supply and firm in constituency while at the same time incapable of producing or throwing out additional granulation material sufficient to fill in the entire wound.

4. The result being a wound partly repaired and presenting a floor that is firm, leathery in character and dormant as far as further tissue production is concerned. It is in an arrested stage of repair that resists all stimulation.

When this occurs one is confronted with a stagnant wound, which may not show any signs of infection and have a so-called "healthy appearance," still it will not progress to final and complete closure, no matter what applications are applied. At first appearance it is a wound that deceives one and he who has not met and observed their characteristics is inclined to an optimistic view and prognosis. But passing weeks of continued resistance to every application which achieve but little induces one to alter his attitude to the condition that exists. One then realizes that a well nigh insurmountable barrier has been encountered. That a more radical procedure must be resorted to.

This procedure consists of the excision of the existing scar tissue and the closure of the wound by approximation by means of suture. It is the only measure effective and still it must not be employed until the micro-organisms existing in the wound have been determined to be by repeated microscopical examinations less than 5 or 6 to the field. The closure must be done under all aseptic precautions and in doing so one must well plan his incisions so as to obtain required amounts of skin to completely close the frequently large gaping wounds that present. The success of the closure is wholly dependent upon the avoidance or shall we say prevention of infection.

I have endeavored to thus generally outline causes for failures following debridement and also advance the method by which the failure can best be remedied. It then becomes evident that this necessity for instituting this secondary closure may be prevented if we but observe the following:

1. Early withdrawal of drainage material.
2. Avoidance of every retarding factor to

rapid proliferation of granulation material by close attention to proper observance to the principles of drainage.

3. Repeated daily bacteria counts.

4. Drawing the edges together with sutures or laces.

5. Late primary suture on the third to sixth day providing the bacteria count is five to seven to a field.

One must be familiar with the essentials of after treatment if he expects to secure the greatest possible results, as well as prompt, from the employment of the debridement procedure.

VICTORY LIBERTY LOAN.

The United States Government needs the money of Michigan medical men, but Michigan medical men, in double degree, need the bonds or notes of the United States Government. In other words, the reader of *The Michigan State Medical Journal* who lends every available dollar to the nation in the Victory Liberty Loan of next April, helps his government—but helps himself even more.

Professional men are notoriously poor investors. So long as they stick to their profession they prosper; but it is often easier for them to make money than to keep it. There is probably not a medical practitioner in the state who would not be better off today had he put all his savings into government bonds.

Physicians and surgeons rarely have time thoroughly to study the security field, with the result that they now hold, in the aggregate, hundreds of thousands of so-called securities that pay nothing on the investment and cannot be sold for a fraction of their cost.

Therefore the readers of *The Michigan State Medical Journal* can not do better for themselves—aside from the patriotic obligation of seeing the nation through its war financing—than to buy heavily of the bonds or notes of the fifth loan. These Victory obligations have been especially designed as a business and professional man's investment. They are to run for a very short period, which will insure their being classed everywhere as a cash asset. They will enjoy so active a market, therefore, that they will be protected against market vicissitudes. They will return, interest rate and exemptions considered, the highest rate offered by

this nation since Civil War days. They give the public one more chance to invest in that which was never available to them from the 60's to 1917—a United States government bond or note on a basis to yield a good interest return on the investment.

As regards the future price of United States government securities—the safest investment in the world—one may form an opinion by the recent market course of the United Kingdom of Great Britain's 5½ per cent. convertible notes sold to American investors shortly before the United States entered the war. These notes matured Feb. 1 and were illuminating in that they provided that the owner might exchange them at any time up to the date of maturity for British government bonds bearing the same rate of interest and running for twenty years.

The notes, as a short time investment, had been changing hands at a price of about 99. But as soon as the news of Germany's surrender reached this country there was such a rush of investors to obtain the notes that the price shot up to 105. They remained at a premium till maturity. Men experienced in such matters knew that long term British government bonds paying a liberal interest return must within a comparatively short time after the close of the war rise to a premium and add to that premium steadily as the average rate or interest on all borrowing decreased with the restoration of normal times.

The British nation is waterlogged with debt as compared with the small national debt of the United States today. If British bonds already have risen to a premium in certain cases, it is obvious that all American government securities must in a comparatively short time sell at a premium over the price at which they are sold to the patriotic public.

Ittiolo.—An ammonium sulphoichthyolate preparation manufactured from bituminous shales found in Giffoni Vallepiiana, Italy. Its composition closely resembles that of ichthyol. Since ittiolo closely resembles that of the original ichthyol, it is claimed that its actions and uses are also essentially those of ichthyol. Guiseppe W. Guidi, New York.

Quinine. Ethyl Carbonate—Merck.—First introduced as euquinine. It is almost insoluble in water, and is therefore practically tasteless. Its actions, uses and dosage are essentially those of ordinary quinine salts. Merck and Co., New York. (*Jour. A.M.A.*, Feb. 1, 1919, p. 345).

Editorial Comments

Bring your certificate of membership to the Annual meeting.

The Eighth Conference of Industrial Physicians and Surgeons was held March 14, 1919, at the William Penn Hotel in Pittsburgh, Pa., under the direction of the Division of Industrial Hygiene and Engineering of the Bureau of Inspection of the Department of Labor and Industry, Commonwealth of Pennsylvania.

The Fiftieth annual meeting of the American Medical Editors' Association will be held at the Marlborough-Blenheim Hotel, Atlantic City, on Monday and Tuesday, June 9 and 10 and will take the form of a semicentennial celebration and a Victory Meeting, emphasizing the part which this Association and its members have taken in the world's war.

A list of those who have paid their dues will be on hand at the State Meeting and the secretaries of the various county societies are requested at that time to check up with the State Secretary.

It is unfortunate that this issue of the *Journal* is smaller than previous issues. This is due to the fact that we did not receive any clinics from Ann Arbor or Detroit. Therefore we had to use our scissors considerably.

The article presented by Doctor E. Schnoor is a good and timely one relating to Encephalitis Lethargica or "Sleeping Sickness" and the paper is deserving of careful consideration.

The Opportunity Monograph published by the Surgeon General's Office for disabled soldiers, sailors, and marines presents so many object lessons that one is almost astonished to know the different fields in which the disabled soldier, sailor, and marine may gain a livelihood. They are prepared by the Federal Board for Vocational Education under such headings as "The Law as a Vocation," "Safety and Fire Protection Engineering," "Oxy-Acetylene Welding," "Electrical Employments with Utility Companies," "Electrical Construction, Maintenance, and Repair Occupations," "Concrete

Construction and Cement Manufacture," etc., and from these different vocations to select from one is led to believe that sometimes accidents are a betterment for some people.

Provision will be made for a stereopticon for those wishing to use lantern slides in connection with papers at the various section meetings.

In the February issue of the *Journal*, the articles "Influenza and Pneumonia with Their Complications," by Major Lynn S. Beals, Camp Custer, Mich., and "Thrombosis of the Coronary Arteries," by Doctor James B. Herrick, Chicago, Ill. which were read before the Kalamazoo Academy of Medicine were merely views of the original papers and the discussion, and were published without being recorrected by the authors.

Usually the program of the Annual Meeting of the Michigan State Medical Society is given in the previous month's issue. This cannot be done this year as the Secretary-Editor has no positive information as to the number of papers to be given in each section. This together with information relative to the entertainment will appear in the May issue of the *Journal* which will be in the hands of every member of the Society by May 15th. The physicians are all extremely busy at the present time, and reconstruction and debridement seem to have taken the profession under its wing. These bright and beautiful days have given new life and zest to the profession and in a few months these many changes will bring wonderful results that no doubt the pages of the *Journal* will glitter with new thought and idea, not that we will lose the old faces and long remembered names but they will take on new forms as it were and become exponents in the universal idea of betterment.

Just as we are going to press we received notice of the death of Dr. Edward James O'Brien, Cheboygan, Mich., who died February 25th.

Lieut. Dana Post, M.C., of Detroit, Mich., was killed overseas in August, 1918, while on duty in an advanced First Aid Dressing Station, by the direct hit of a high explosive shell. Lieut. Dana is the fourth member of the State Society to pay the supreme sacrifice.

EFFECTS OF TYPHOID FEVER AND ANTI-TYPHOID IMMUNIZATION OF PULMONARY TUBERCULOSIS.

In the summer of 1917 a typhoid fever epidemic occurred at the Trudeau Sanatorium. Thirteen patients and two maids developed typhoid fever. Since

the thirteen patients were all suffering from pulmonary tuberculosis in a more or less active form the opportunity was given to study the interacting effects, if there were any, between the two diseases. As soon as the presence of the epidemic was appreciated, antityphoid inoculation was performed on 124 tuberculosis patients at the sanatorium. The authors, Brown, Heise, Petroff and Wilson report the results of their studies on these tuberculous patients who had typhoid fever or prophylactic inoculation, and the deductions to be drawn therefrom. Results are tabulated in five tables and detailed case reports of every typhoid fever patient are appended at the end of the study.

Among the more important conclusions worked out by the authors are the following:

Inactive pulmonary tuberculosis exerted no appreciable effects upon the course of the typhoid fever, but as the two deaths from typhoid fever occurred among those with active pulmonary tuberculosis, it appears possible that active pulmonary tuberculosis may influence the typhoid fever and render recovery less likely.

Typhoid fever does not influence inactive pulmonary tuberculosis and apparently also does not affect active pulmonary tuberculosis.

Antityphoid inoculations did not apparently influence the inactive pulmonary tuberculosis. No permanent untoward results followed in any case.

The immediate results of treatment in patients receiving antityphoid inoculations differed in no way from the immediate result obtained in two other years when such inoculations were not given.

Brown, Lawrason, Heise, F. H., Petroff, S. A., and Wilson, George E. A Study of the Effects of Typhoid Fever and Antityphoid Immunization on Pulmonary Tuberculosis. History of a Typhoid Fever Epidemic at the Trudeau Sanatorium. *American Review of Tuberculosis*, February, 1919, Vol. II, No. 12.

GOOD JUDGMENT AS TO BLOOD PRESSURE.

The instinct of self-preservation on the one hand, and the habit of introspection on the other, lead human beings to be continually more or less anxious in regard to their physical condition. From time to time the advances which are made in medicine are considered by members of the profession and the laity to have arrived at the last word which can be said in regard to a given subject, and as a consequence the results are taken as absolute facts. In reality, they should be regarded with the greatest possible interest, but only as marking another milestone in diagnosis and therapeutic progress.

Any one who chooses to go back over medical literature during the last three or four decades will find that physicians and the laity from time to time

have been fairly carried off their feet by new ideas which by virtue of their novelty and apparent reasonableness have been readily accepted. When instruments of precision in the study of the blood first came into vogue it was remarkable how many conditions were said to be dependent upon anemia, and even at the present time anemia is regarded as the cause of symptoms when, in reality, it is, as are all the other symptoms presented by the patient, a result and not a cause. Again, uric acid for years held the front place as a means of explaining certain conditions which were at first puzzling, but which seemed to be quite clear after the uric-acid theory had been promulgated, but now we have learned that uric acid in itself is not harmful, and that it, when in excess, is the result and not the cause of certain conditions of malnutrition or illness.

Another illustration of this tendency to seize upon novel ideas in the hope of obtaining the explanation of illness is found in the all too frequent tendency on the part of some physicians to make a diagnosis of tuberculosis when slight prolongation of expiration and slight impairment of resonance at one apex is taken as a pathognomonic sign of this infection, without remembering that a pneumonia or pleurisy many years before, or a recent attack of influenza, may be the real factor in the case.

Among the more recent of these fads, because they are fads when they are carried too far, is the matter of blood-pressure. In just the same way that a composite photograph of a thousand men might produce a form of nose which would be considered as a normal type, so an estimation of a thousand blood-pressures may be taken as of statistical value in deciding what the pressure of a healthy adult of a given number of years should be. Yet every one recognizes that individuals have very wide variations as to the form of the nose without having an organ which is functionally impaired or in any way incapable of performing its normal duty. The same thing holds true as to blood-pressure. It may be true that the average normal, in adult life and health, is ninety diastolic and one hundred and thirty systolic, but it is also true that many persons vary considerably from these figures, and yet are in perfect health. Nevertheless they become unduly frightened if they find that their pressure is above or below what may be considered the theoretical normal, and not infrequently get into such a state of mental and nervous irritability that when the blood-pressure is taken it registers ten or fifteen points higher than it usually is in that patient under ordinary circumstances. Furthermore some physicians, and many patients, think that a variation of five or ten points is of the greatest possible importance, when placed upon the scales

on the side of evil or on the side of good, when as a matter of fact, the acuity of the observer of the condition of the patient at the moment that the pressure is taken may be entirely responsible for the varying results obtained at different times.

Because too much attention is paid to blood-pressure many patients are put upon rigid diets which improperly nourish them, and, feeling miserable because of impaired nutrition, they conclude that they are seriously ill.

There can be no doubt that one of the things which we need at the present time is a careful study of blood-pressures, associated with careful estimation of weight and size. A blood-pressure which may be abnormally high for a man weighing one hundred and twenty pounds may be absolutely essential to a man weighing two hundred and twenty pounds, and, on the other hand, a fairly high blood-pressure, which is not distinctly beyond all reasonable bounds, is essential if a powerful man is to successfully take strenuous exercise whether it be along the line of sport or work. As a matter of fact we think it may be fairly stated that the prognosis and therapy of cases of high blood-pressure is to be more governed by careful urinalyses to determine the condition of the kidneys than by any other means. A man who has a blood-pressure thirty or forty points above the statistical normal for his years, and in whom repeated examinations of the kidney function show no renal lesion, may well be put in that class which are considered healthy, and to a certain extent peculiar, because they are higher than the average. On the other hand, if a patient's blood-pressure be twenty-five points above the statistical average and the urine shows some albumin and casts a comparatively moderate pressure has more significance.

Diet in the treatment of blood-pressure is resorted to with too little care in the vast majority of cases. As a matter of fact the rules of diet in such patients can be summed up briefly by the words "moderation in all things," rather than by the words which strike from the patient's list many articles which are highly nutritious and which he needs, not only on a nutritional basis but also because, through years of use, he has gotten his system in such a state that it is dependent upon these food products. We clearly recognize that patients who have taken morphine and alcohol for considerable periods of time have so changed their nutritional processes that they are not only able to oxidize these substances in larger quantities than an ordinary individual, but they may, at times, get distinct benefit from them, and to some extent the same rule holds true in regard to red meats, which the physician is all too prone to strike from the diet list without any good reason except that he is following the

fashion which possibly has been started by some prominent member of the profession, who later on has seen the error he has made, but his followers perpetuate his error long after he has recognized his mistake. In other words, most of these patients with high blood-pressure need only to be told to eat sparingly and to use plainly cooked foods and to avoid beverages and condiments which are designed to force a fagged and tired digestive apparatus into dealing with the excessive quantities of food which they may ingest for the purpose of pleasing their gustatory nerves. The old motto "moderation in all things" is to be employed by the patient who has been prone to overeat and overdrink, and equally by the physician who thinks that because a high blood-pressure is present in a given individual that that individual would be better off if his blood-pressure falls as a result of impaired nutrition, at which time the patient may feel far more ill than he felt when the physician discovered that his blood-pressure was theoretically too high.

Closely associated with this point is the additional one of considering that a patient's pressure is always dangerously high because it shows too high a record at a single examination. This is just as much of an error as to decide that a man's urine is always normal, because a single sample does not reveal a pathological condition. Not infrequently a true record of a patient's average blood-pressure is not obtained until it has been taken so often that the procedure is regarded by the patient as a matter of course, and as a result nervous tension, as a factor in raising blood-pressure, is not met with.

AMBULATORY TREATMENT OF GASTRIC AND DUODENAL ULCER.

Freeman, in the *Virginia Medical Monthly* for October, 1918, well says that in a group of cases like the one under consideration it becomes very necessary to outline a course of treatment which will allow the patients to continue their daily avocation. For pecuniary reasons it is quite impossible for these patients to follow out a systematic rest cure in a hospital, so in the clinic he depends upon the following course of treatment as being one the patient may take at home, and from the results obtained he feels this treatment is justified. The treatment:

First, focal infections. He removes when possible all focal infections, especially those about the teeth and sinuses. He excludes, as far as possible, all conditions within the abdomen which may be associated with, or produce, symptoms similar to ulcer.

Second, habits. He stopped the use of alcoholic stimulants, tobacco, tea, and coffee.

Third, diet. In his series he gave a mixed diet of carbohydrate, protein, and fats, but he gives the

preference to carbohydrate food as carbohydrates leave the stomach more quickly than protein and fats, and by leaving the stomach more quickly make less demand upon the secretory and motor power of the stomach. The opening and closing of the pylorus is controlled by the presence of free acid in the stomach and in the first part of the duodenum. Free acid in the stomach contents coming in contact with the pylorus causes the pylorus to open and the presence of free acid in the first portion of the duodenum causes the pylorus to close, and the pylorus remains closed until the contents of the duodenum are made alkaline; thus, the duodenal control of the pylorus is the stronger of the two. Carbohydrate foods by not combining with the acid in the stomach allow free acid to quickly appear in the stomach contents, which, coming in contact with the pylorus, opens the pylorus and permits the food to pass on into the duodenum.

The fact that carbohydrate food leaves the stomach quickly, that it gives the stomach less mechanical work to do, that it makes no demand upon the acid secretions of the stomach, leaves it quite apparent that the diet that makes the smallest demand on the stomach is the one that should give the best results in the treatment of these cases, but in the ambulatory treatment we must always remember that it is always necessary to allow a diet that will retain a sufficient amount of protein and fat to maintain the body in a state of good nutrition, for if nutrition is not maintained the healing of the ulcer will be very much delayed and sometimes be impossible. When possible the following diet was given for the first two weeks:

7 A. M.—6 ounces of milk.

9 A. M.—Egg-albumen.

11 A. M.—Cup of bouillon with one egg.

1 P. M.—Rice cooked in milk.

3 P. M.—Egg-albumen.

5 P. M.—6 ounces of milk.

7 P. M.—Egg-albumen.

9 P. M.—6 ounces of milk.

No food was given from 9 p. m. until 7 a. m.

However, most of his patients were unable to take nourishment every two hours and from the beginning of the treatment were put on soft food three times a day, with a glass of milk or some other liquid food between meals and at bedtime. The following foods were allowed: Well-cooked cereals, especially cream of wheat and oatmeal, mashed potato, baked potato, macaroni prepared without cheese, boiled rice, milk toast, soft-boiled eggs, and stewed fruits. After the patients had been under treatment for two months the light forms of meat, such as chicken, fish and lamb, were allowed once a day; then the diet was gradually increased until at the end of three months the

patients were taking thoroughly cooked vegetables such as spinach, cauliflower, string-beans, etc. This change to liquid and soft diet is so great for this type of patient, who has been accustomed to eating very coarse food rapidly and at irregular hours, that Freeman believes he obtains almost as good results in the ambulatory treatment of these cases as he does with the people in the better walks of life who take the regular rest-cure treatment in a hospital.

Fourth, hot applications. Before retiring these patients are all directed to use hot moist applications to the abdomen for forty-five minutes. This adds materially to their comfort by lessening gastrospasm and pain.

Fifth, medicinal. His patients were given tincture of belladonna before meals and an alkali after meals. He always began the treatment with three drops of belladonna three times a day, and increased one drop per dose per day until the physiological tolerance of the drug was reached, frequently giving as much as 25 drops or more three times a day. It has been his experience that ulcer patients tolerate very large doses of belladonna, and that good results from the use of the drug are not obtained unless it is used in large doses. By beginning with small doses he has avoided the unpleasant toxic symptoms of the drug that occasionally occur. Freeman believes that belladonna indirectly aids materially in the healing of the ulcer by lessening gastric secretion, pylorospasm, or gastrospasm, and by the relief of pain.

These patients were also given moderate doses of 20 to 30 grains of bismuth subcarbonate and calcined magnesia one-half hour after meals. He used magnesia as a rule instead of bicarbonate of soda because it has a laxative effect upon the bowels, has a greater combined power for free acid, and does not produce carbon dioxide in the stomach, which may produce atony.

The author concludes as follows:

1. In a large number of cases of gastric and duodenal ulcer Freeman feels that the ambulatory treatment is justified.

2. That in the dietetic management of these cases the preference should be given to carbohydrate food.

3. Good results are obtained only with those patients who can tolerate belladonna in very large doses.

A CLINICAL STUDY OF ONE HUNDRED AND FIFTY CASES OF BRONCHIAL ASTHMA.

Rackemann, in the *Archives of Internal Medicine* for October, 1918, informs us of the fact, long recognized, that the treatment of bronchial asthma

resolves itself into the treatment of the exciting cause if this can be identified. He believes the best results are obtained in the cases of extrinsic asthma, especially in pollen cases. Treatment with an extract of the specific pollen will relieve the hay-fever and the asthma often entirely. Specific treatment of the horse asthma cases is usually only partially successful, although the results obtained justify the effort.

The question of dosage as well as the time interval between doses is, of course, important, but discussion of these factors must be based on a much larger series of cases. The general impression here has been that relatively small doses, only sufficient to cause a noticeable local reaction on the arm persisting for twelve hours, and given not more often than once in five days, have given the best result. The doses have been continued for at least twenty-five days after the asthma has abated.

Throughout his work the dosage has been measured in milligrammes of total nitrogen—not in quantities of solutions.

There has been no experience with specific treatment of other extrinsic causes, but avoidance of the particular protein has usually been possible and satisfactory.

The treatment of intrinsic asthma is far from satisfactory. Local treatment of the nose, throat and teeth has been long considered important. The removal of nasal polypi, the drainage of sinuses, and the extraction of teeth will all relieve the asthma. This relief, however, rarely amounts to a cure, and even if very marked is rarely permanent. The fact that many patients have spontaneous intervals of freedom from asthma which last for months or years makes the results of any treatment difficult of interpretation.

The use of vaccines in the cases presumably due to bronchial infection, whether or not these infections are accompanied by emphysema, and the study of the bacterial flora in the sputum from these cases must be left for some future time.

In following 150 cases, it has been a matter of the greatest interest to discover why periods of improvement have taken place. In most cases no reason for this could be discovered. All of which suggests the marked nervous or autonomic element which doubtless exists. One patient who had been listed under chronic bronchitis and emphysema remained free of asthma, in spite of a continued cough, for eleven months following exactly from the day of performing the various intradermal skin tests on his arm—which tests had been all negative.

Potassium iodide remains, as Lemann (*Treatment of Bronchial Asthma*, *Am. Jour. Med. Sci.*, 1911, 142, 781) puts it, the sheet-anchor in the treatment of asthma. It is especially effective in

cases whose asthma depends on a bronchitic infection.

Calcium salts in the present series have undoubtedly helped some cases.

Adrenalin is a very important drug in the treatment of asthma; a subcutaneous injection of adrenalin chloride solution (Parke, Davis & Co.) will control the attack in almost every case. It, however, has relatively little effect on the general control of the disease. There is much literature on the use of adrenalin in asthma.

Asthma powders of various kinds, most of which contain niter and stramonium leaves, all help the attack, but do not cure. The treatment of associated conditions—constipation, hyperacidity, etc.—is always important, and the writer has seen more than one case very markedly improved on regular doses of a mild alkaline aperient salt.

Frequently unconsidered and apparently unimportant suggestions, such as a temporary change of residence, a slight temporary modification of the diet, ether anesthesia, temporary rest in bed with full diet, correction of faulty attitude, etc., have been of the greatest assistance, and not infrequently have led to a virtual cure. On all these various methods there is rarely any good control, because so many patients have intervals of freedom from attacks, which intervals may last for several years.

SYPHILOLOGY.

CEREBROSPINAL SYPHILIS.

At one time there was some doubt as to the role of the spirochete pallida in the nervous manifestations of syphilis, but it is now well known that the exciting cause of all syphilis including the so-called parasyphilitic disease (tabes and paresis) is infection with the spirochete pallida. The presence of this organism has been demonstrated in the cerebrospinal fluid of secondary cases by inoculation of the monkey and also in cases of nervous relapse following salvarsan by inoculations of the rabbit.

G. L. Qualls (Military Surgeon) points out that the contributing factors in acute invasion of the central nervous system are:

1. Strains of a high invasive power, having a special affinity for the central nervous system.
2. Strains resistant to treatment.
3. The destruction of a greater number of parasites in the body outside of the central nervous system and cerebrospinal fluid by salvarsan, and because of the inability to reach them by treatment, or of their resistance to drugs, they remain. This sudden withdrawal of inhibition gives the remaining or resistant organism a chance for rapid multiplication and development in the cerebrospinal system.

In the light of our present knowledge it would appear that practically all cases of syphilitic in-

volvement of the central nervous system are acute and it has been shown (Wile and Stokes) that 60 to 70 per cent. of all syphilitics, in the secondary stage, show signs of infection of the central nervous system in varying degrees. The cases treated by the author by means of intraspinal medication seem to have improved more rapidly and improvement was apparently more permanent than in those receiving neosalvarsan only. He believes that the administration of mercury to its limit of tolerance, in conjunction with intravenous and intraspinal medication of salvarsan, is a potent factor for good. By employment of proper technic the amount of serum given intraspinally may be materially increased without depression or serious after effects, and with more rapid improvement.—Alfred Schalek in *The Urologic and Cutaneous Review*.

NEW ASPECTS OF MEDICAL EFFORTS.

That the methods and conditions of the work of medical men, are, at present, in a stage of transition, is nothing new. There is a general feeling of unrest, of dissatisfaction, a groping, more or less blindly, sometimes, though, deliberate and purposeful, for greater development toward the ideals of medical practice that justly are found in the prevention of disease, making unnecessary the curing of it, because of its nonoccurrence.

It has been suggested that medical men returning from service in the army and navy, either in the home country or abroad, will not be satisfied to go back to the old routine work, to grope along in the accustomed grooves. New outlooks have been obtained; new ideas have been formed, and new ideals have arisen. One field of splendid activity, suitable for medical men, that has been opened up in recent years and is but partly developed, is well touched upon by a correspondent to *The Journal of the American Medical Association*. In the December 21 issue of this publication, on page 2093, Dr. J. F. C. Luhan, acting assistant surgeon of the U. S. Public Health Service, has put the problem so well that we can do no better than to reproduce his letter in full, as follows:

"Now is the time for American small municipalities to rise and demand health protection and to pay for it. Thousands of able, educated, experienced young medical officers from the Army, Navy, and Public Health Service will soon be discharged or will leave by resignation. Give these young, able men a chance to work as paid health-officers in each community of, say, 5,000 inhabitants and above. Pay them living-salaries and make them independent from the start. Place them in groups under older officers as supervisors, and let the U. S. Public Health Service do the general supervision and

direction of the work, so that uniform and advanced procedure may be maintained. Establish suitable, perhaps small but, still, well-equipped laboratories, for conducting bacteriologic and biologic work, in some centrally located larger city, and place an efficient officer in charge. Build hospitals!

"Have on hand an adequate staff of nurses, not only to supervise the school-hygiene, but, also, to visit and instruct families in their homes and to detect overcrowding in the slums of the city. Make available self-sustaining, sanitary boarding-houses for single men and women; protect the children from the evil influences of star-boarders and the like. Segregate tuberculous subjects. Have a social-welfare committee regularly appointed and managed by Red-Cross staffs, these to teach to the foreign-born the American way of clean living and to see to it that pure air and, in winter, sufficient heat is supplied the needy, and that the children are properly clothed. Give the American public the benefit of the experience for which they had to pay so dearly. Americanize the foreigners, by paying more attention to their welfare."—*The American Journal of Clinical Medicine*.

INDUSTRIAL MEDICINE.

Manufacturing interests throughout the country are becoming impressed with the vital necessity of properly safeguarding the lives and health of employees, not only from the viewpoint of the new humanitarianism, but from a sense of business foresight.

The demand upon the newly established Working-Conditions Service, of the U. S. Department of Labor, for industrial physicians and surgeons, has grown so rapidly that the Service has been compelled to establish a bureau of registry of physicians trained and skilled in this growing phase of medical and surgical specialization.

The new registry bureau is prepared to furnish industries with the names of skilled industrial medical advisers on request. The demands for competent medical directors for the factory department of hygiene are being met by the Service with an adequate list of physicians, all of whom have had experience and training in this particular function. Hundreds of such physicians are listed in the Government's registry bureau in Washington and hundreds are being added to the registration files.

In each instance, the Service satisfies itself of the training of the physicians before their names are allowed on the list. Thus, only those best qualified are listed and manufacturers have the advantage of knowing that, by availing themselves of this Service, their dispensary section will be in competent hands.

In addition to submitting names from the physicians' registry bureau, the Service is making investigations—only on request, however—of the general facilities for protecting the lives and health of employes. This work is carried on from branches of the Service now being established within easy reach of the nation's industrial centers. When such surveys are concluded, a report of the findings, with recommendations, is delivered to the responsible head of the particular industry. In this manner, industries are assured reliable and unbiased information from authorities who have studied industrial problems exhaustively, with expert training in hygiene, sanitation and related subjects.—Dr. A. J. Lanza, Chief, Division of Industrial Hygiene and Medicine, Washington, D. C., in *The American Journal of Clinical Medicine*.

REMARKS ON METHODS OF TEACHING MEDICINE AND SURGERY BY THE CINEMATOGRAPH.

I am presenting abstracts from my work in the Office of the Surgeon-General, illustrating the recent methods of teaching orthopedic surgery to medical and line officers and enlisted men in the Army.

As a supervising surgeon, it early became apparent to me, in lecturing at various cantonments or to any large body of students, that simply the verbal lecture, with the limitations of the human voice and the absence of illustrations or clinical material, was inadequate for attention and retention by the memory; charts and slides were impractical, so that the moving picture, on my initiative and the hearty cooperation of Colonel Owen, was established in the Surgeon-General's Office and the other specialties soon availed of it.

In creating these lectures, I have had in mind not only military instruction, but adding teaching facilities available for use in our civil medical schools, upon request to the Surgeon-General.

It soon became apparent to Colonel Brackett, Director of our Division, and the rest of us engaged in this instruction, that it was expedient to go into the most rudimentary facts regarding locomotion, the prevention of avoidable disability and the recognized treatment of the more common affections of the lower extremities. Some thousands of feet of film I prepared on these subjects alone.

After completing our task of instruction in preparation for the over-sea duty, our attention was next directed to the demonstration of methods for the immediate care of the wounded.

Finally, our efforts have been to portray in detail the technic of surgical reconstruction in tendon, muscle, bone work, etc.

The moving picture film will bring the student into closer touch with clinical material, certain symptoms such as neuroses, epileptic seizures, tics, etc., than are oftentimes available in hospital routine instruction and difficult to describe, but the so-called "close-ups," as shown by "the movies," will bring the student intimately in contact with the operating table, which is often not possible from an amphitheater seat. The details of arterial, nerve or intestinal anastomosis, bone grafting, application of mechanical principles of direction and technic in tendon and muscle transplantations for deformities and application of deep sutures are brought home and fixed in the memory as by no other means of instruction, save actual experience later in the procedures themselves.

This mode of instruction, in conjunction with the didactic lecture, has been found to yield a higher average mark per student than any other mode of teaching.

The moving picture possesses the advantage over the lantern slide in that the component parts of a lecture cannot be disarranged, broken or lost, nevertheless inserts or additions can be made, almost unlimited positives can be printed from the original negative at the same cost as slides, and films are lighter and more easily transported than slides. A simple modern attachment is also now available for stopping the moving picture machine at any point without burning the film, when it is desired to emphasize some special picture, thereby putting it in a less costly class than the slide, which has not heretofore obtained and was an objection.

By means of the moving picture in comparative teaching of the future, the medical student will also be able to see the modifications of several surgeons in performing a given procedure; thus a class may see the technic employed at the clinics of this and other countries at the same sitting and appreciate the value of the points made in each. It is thus very broadening in its educational possibilities. Or a clinical professor, who wishes to illustrate his systematic course of lectures, but is lacking in clinical material, can resort to a moving picture record of the desired cases, symptoms, signs, operation, etc.

The films of the Army Medical Museum will be available to teachers in the army and medical schools and the profession, just as the books in the Surgeon-General's Library are for study or reference, provided transportation, safe handling and return in good order or replacement are guaranteed.

It is hoped that the profession will co-operate in giving films to this department or allow it to make copies of existing negatives.

It has been brought to the attention of the Surgeon-General's Office that certain commercial film companies, having made medical films, wished to

charge this department for copies or the profession for exhibition purpose on a commercial basis. Physicians could easily and should specify, when approached to demonstrate a new original procedure for a "movie" company, that a copy be sent to the Surgeon-General for the profession at large, before permitting it to be made.

Many facts in the prevention of acute foot strain, the so-called flat-foot, and the explanation of the large number of torn ligaments at the knee and ankle in trench jumping at the cantonments have been explained by this department and moving pictures prepared to demonstrate how to jump correctly and present such disabilities. Also as a result of this film, instruction in standard foot examinations, shoe fitting, correct balance and marching, to be used in the Army, have become or will shortly be issued by the General Staff as general orders, etc.

By diagrammatic or "stop-motion" line-drawing or "animated drawings" as they are called, a most valuable instructive preliminary is at hand to precede a picture of an actual operative procedure. Demonstration of details in brace construction, fitting and therapy, and especially in recording, charting, measuring departures from normal gait, this new national aid to orthopedic surgery is an added asset, divested of the costly obstacle which has prevented its addition as a routine in the teaching of standard methods by many heretofore.

My plan in teaching my students any given operative procedure is to show them the "animated drawing" first, then a "close-up" of an actual operation and other surgeons' technic in that condition, and finally the operation itself, on the living subject, with illustrative cases before and after the operation.—Major R. Tunstall Taylor, U. S. A., Office of the Surgeon-General, Washington, D. C., in *American Journal of Surgery*.

On authority of the Office of the Surgeon General of the Army, it is said that there may be less than fifty American soldiers who suffered total blindness from wounds received in action. This is considered a remarkable record for the number of men engaged, and the intensity of the fighting in the sectors where Americans were engaged.

The study of industrial fatigue, as carried on in British munition factories during the war, led to results of great interest to both employers and employes. We are glad to learn that the British are now going to extend these investigations to industrial establishments generally, and have accordingly established an Industrial Fatigue Research Board, under the Department of Scientific and Industrial Research and the Medical Research Committee. The duties of the board, as reported in *Nature*, will be to initiate, organize and promote, by research, grants or otherwise, investigations in different industries with the view of finding the most favorable hours of labor, spells of work, rest pauses, etc. The chairman of the board is Prof. C. S. Sherrington, and headquarters have been established at 15 Great George St., Westminster, S. W. 1, London.

Deaths

Dr. Francis R. Blanchard of Eaton Rapids died Tuesday evening, March 4th. Doctor Blanchard was 55 years of age and was born in Farmington, Pa. He graduated from the medicine and surgery course of the University of Michigan in 1891 with Doctor C. A. Stimson who later became his partner. He had prac-



DR. FRANCIS R. BLANCHARD.

ticed in Lakeview for twenty-one years and about six years ago moved to Eaton Rapids.

About six months ago with Doctor C. A. Stimson and Mrs. Harriet Chapman Brunk, a graduate nurse, he undertook the erection and operation of the Harriet Chapman Hospital at Eaton Rapids, which was just recently opened, Doctors Blanchard and Stimson having offices there.

Doctor Blanchard is survived by one sister, Mrs. Mary Forsythe, of Eaton Rapids, and three brothers. He was a member of the Medical Reserve Corps during the war, and was an active member of the Eaton County Medical Society, having been President in 1918.

The deaths of Doctor C. H. Winton of Kalamazoo, and Doctor Homer Gordon of Lansing, not members of the State Society have been reported.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

PRACTICE

Central Michigan town of 700. A No. 1 school, Baptist and Methodist churches. Very fine farming section. State roads. Average better than eleven months yearly with machine. Good fees. Collected \$1,800 last year. Books open for inspection. All you can do from start.

Fine modern ten room home, furnace heat, electric lights, hot and cold water. Garage. Good three room office. For quick sale \$3,500. Terms one-half down balance to suit. Investigate. Reason: Special work. Address c-o State Medical Journal.

\$100 PRIZE.

The American Association of Industrial Physicians and Surgeons offers a prize of \$100 for the best thesis on any subject related to Industrial Medicine and Surgery by any undergraduate medical student of the United States.

The thesis must not contain more than 5,000 words.

All theses must be in the hands of the Secretary of the Association by May 10th, 1919.

Dr. Frances D. Patterson, Secretary,

Department of Labor and Industry, Third and North Streets, Harrisburg, Pa.

THE STUDENTS' LIBRARY ASSOCIATION of the Middlesex College of Medicine and Surgery solicits donations of Medical and Scientific libraries, Medical books, bound and unbound volumes of back numbers of Medical and Scientific Magazines, and funds for current American and foreign Medical Journals. Jennie Hraba, Class '21, Association Secretary University of Massachusetts School for Medicine, East Cambridge, Mass.

The women of Michigan in the fifth government loan campaign will work under a new leader. Mrs. G. Edgar Allen of Detroit has been appointed state chairman of women by the national woman's Liberty Loan committee.

Mrs. Allen takes the place made vacant by the

resignation of Mrs. Delphine Dodge Ashbaugh of Detroit. Mrs. Asbaugh was state chairman in the preceding loans and was forced to resign by reason of ill health. Mrs. Allen, her successor, was city chairman of Detroit in the Fourth loan. She will make her headquarters during the fifth campaign in her home city.

Mrs. Caroline Brink of Grand Rapids, who has been state vice chairman of women in the preceding loan drives, has agreed to continue in that office during the fifth campaign.

The Wayne County Medical Society held a Subscription Dinner at the Wayne County Medical Building Saturday, March 8, 1919, in honor of Colonel Angus McLean, Colonel W. L. Babcock, Lt. Colonel P. M. Hickey, Lt. Colonel Burt R. Shuriy, Lieut. Colonel Walter J. Vaughn, Major F. B. Walker, Major F. C. Kidner, Captain James D. Mathews, Captain Fred L. Johnson.

Dr. Leo C. Donnelly was married to Mrs. Emma K. Beardslee, widow of Dr. Lynn Beardslee, daughter of Mr. and Mrs. Jas. S. Keightley, March 5, 1919. Their honeymoon will be spent at the Mayo Clinic, Department of Orthopedic Surgery. They have made their home at 90 Elmhurst, Highland Park.

A recent letter from Dr. R. A. Morter, formerly of the State Hospital is now with the Field Hospital of the 80th Division, located in Ancy LeFranc, France. He states that the work is much lighter than formerly.

Doctor M. E. Danforth of Stanton, Mich., connected with the 318th field hospital unit, in the 80th division and who was gassed in the Argonne action about September 20, is expected home very shortly.

Doctor W. P. Stowe of Traverse City has accepted a position on the medical staff of the hospital owned by the Cleveland Cliffs Mining Company at Ishpeming.

Forty-eight of the fifty-three students graduated from the University Hospital at Ann Arbor on March 30th will take internships and two others will teach in medical schools.

Dr. C. A. Youngs, son of Dr. A. S. Youngs, of Kalamazoo, has been appointed City Physician for the city of Kalamazoo, and assumed his duties on March 1st.

Word received from France tells us that Major R. F. Balch of Kalamazoo is located at Bordeaux and that his work is Plastic Surgery of the Jaw.

Major Dan H. Eaton has returned from France, and received his honorable discharge, and has opened an office at 1001 and 1002 Hanselman Bldg., Kalamazoo.

Major Richard R. Smith of Grand Rapids, Mich., commander of hospital unit Q at Bordeaux, has been promoted to Lieut. Colonel.

Doctor Cyril A. Youngs, as Kalamazoo's first full-time physician, will have charge of the bacteriological laboratory.

The slayer of Dr. I. M. J. Hotvedt of Muskegon, Mich., was sentenced to a life term in Jackson prison.

Doctor E. W. May of Detroit has received his

honorable discharge from the Medical Corps and has resumed his practice in Detroit, Mich.

The Detroit College of Medicine and Surgery graduated 29 members of the class of 1919 on February 18th.

Lieutenants Currier, Deaver, and Wells of Grand Rapids have been promoted to Captains.

Dr. G. L. Bliss of Kalamazoo has sufficiently recovered to resume his practice in Pediatrics.

Word received from France indicates that Capt. Ward E. Collins will soon return to America.

Dr. G. T. Britton, Kalamazoo, who has been ill has recovered and resumed his practice.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

HILLSDALE COUNTY

The Annual Meeting of the Hillsdale County Medical Society scheduled for last December was postponed on account of the influenza epidemic. At the meeting held on March 8, 1919, it was voted to continue the present officers of the Society for the ensuing year:

President—Dr. O. G. McFarland, Montgomery.
Vice-President—Dr. S. B. Frankhauser, Hillsdale.
Secretary-Treasurer—Dr. D. W. Fenton, Reading.

IONIA COUNTY

The Ionia County Medical Society elected the following officers for the ensuing year:

President—Dr. A. B. Penton, Smyrna.
Vice-President—Dr. M. O. Blakeslee, Ionia.
Secretary-Treasurer—Dr. R. R. Whitten, Ionia.

Delegates to the State Medical Meeting—Dr. H. Maynard, Ionia; Dr. G. A. Stanton, Belding.

KALAMAZOO ACADEMY OF MEDICINE

The regular meeting of the Kalamazoo Academy of Medicine occurred Tuesday, February 25th, 1919.

Dr. N. D. Shaw, of Hartford, Mich., was elected to membership.

The scientific program for the afternoon was as follows:

1. Some Special Points in the Treatment of

Fractures Learned From Personal Experience. (Illustrated with lantern slides.)

Major P. B. Magnuson, Chicago.

2. The Influenza Epidemic as Observed at Camp Hospital No. 52.

Major Dan H. Eaton, Kalamazoo.

SHIAWASSEE COUNTY

At the annual meeting of the Shiawassee County Medical Society the following officers were elected:

President—Dr. R. C. Mahaney, Owosso.
Vice-President—Dr. C. A. Crane, Corunna.
Secretary-Treasurer—Dr. W. E. Ward, Owosso.
Delegate to State Medical Society—Dr. C. McCormick, Owosso.
Medico-Legal Representative—Dr. F. L. Rice,

OUR HONOR ROLL.

County Secretaries are requested to report the names of all members in the Service.

Allegan County.

Dr. Elmer D. Osmun, Allegan; Dr. Robert P. Stark, Allegan; Dr. Howard W. Stuch, Allegan; Dr. Orrin D. Hudnutt, Otsego; Dr. Willard R. Vaughan, Plainwell; Dr. Robert J. Walker, Saugatuck.

Alpena County.

Dr. Clarence M. Williams, Alpena.

Antrim County.

Dr. Bernard J. Beuker, Atwood; Dr. Edward W. Vis, Central Lake; Dr. Versile M. Gates, Eastport; Dr. Louis N. Yerkes, Elk Rapids; Dr. Worth W. Walton, Mancelona.

Baraga County.

Dr. Frank F. Marshall, Pequaming.

Barry County.

Dr. Maurice J. Cross, Delton; Dr. Birge C. Swift, Middleville.

Bay County.

Dr. F. S. Baird, Bay City; Dr. F. W. Brown, Bay City; Dr. S. L. Ballard, Auburn; Dr. C. V. Crane, Tawas City; Dr. V. H. Dumond, Bay City; Dr. E. Goodwin, Bay City; Dr. E. S. Huckin, Bay City; Dr. H. P. Lawrence, Pinconning; Dr. R. C. Perkins, Bay City; Dr. F. H. Randall, Bay City; Dr. R. E. Scrafford, Bay City; Dr. M. R. Slaterry, Bay City; Dr. P. R. Urmston, Bay City.

Benzie County.

Dr. C. P. Doyle, Frankfort.

Berrien County.

Dr. Louis A. King, Baroda; Dr. Myron G. Becker, Jr., Benton Harbor; Dr. Carl A. Mitchell, Benton Harbor; Dr. Warren P. Morrill, Benton Harbor; Dr. Burton L. Stevenson, Benton Harbor; Dr. David Littlejohn, Bridgeman; Dr. Spence Van Barnum, Coloma.

Branch County.

Dr. W. J. Bien, Union City; Dr. W. A. Griffith, Coldwater.

Calhoun County.

Dr. J. T. Case, Battle Creek; Dr. E. M. Chauncey, Albion; Dr. James Elliott, Battle Creek; Dr. R. V. Gallagher, Battle Creek; Dr. J. G. Gage, Battle Creek; Dr. W. Haughey, Battle Creek; Dr. G. C. Hafford, Albion; Dr. A. A. Hoyt, Battle Creek; Dr. J. J. Holes, Battle Creek; Dr. C. W. Heald, Battle Creek; Dr. T. Kolvoord, Battle Creek; Dr. A. C. McCurdy*, Battle Creek; Dr. W. N. Putman, Battle Creek; Dr. A. H. Ross, Battle Creek; Dr. A. J. Read, Battle Creek; Dr. R. D. Sleight, Battle Creek; Dr. R. C. Stone, Battle Creek; Dr. L. H. Tower, Battle Creek; Dr. E. Van Camp, Athens; Dr. C. G. Wencke, Battle Creek.

*Died in France, November 28th, 1918.

Cass County.

Dr. Edgar C. Dunning, Cassopolis; Dr. Chas. M. Harmon, Cassopolis; Dr. James H. Kelsey, Cassopolis; Dr. Walter S. Sharpe, Dowagiac; Dr. Ralph P. Jones, Marcellus.

Charlevoix County.

Dr. Allan M. Wilkinson, Charlevoix; Dr. Hugh W. Dicken, East Jordan.

Cheboygan County.

Dr. Arthur J. Sahs, Cheboygan; Dr. Lyle D. McMillan, Indian River; Dr. Allen C. Tiffany, Mackinaw; Dr. A. McKillop, Wolverine.

Chippewa-Luce-Mackinac County.

Dr. F. C. Bandy, Newberry; Dr. M. V. Gates, Eastport; Dr. R. D. Scott, Rudyard; Dr. T. R. Whitmarsh, Ypsilanti; Dr. R. C. Winslow, Sault Ste. Marie; Dr. I. V. Yale, Sault Ste. Marie.

Clare County.

Dr. Arthur R. Mussell, Clare; Dr. Burton J. Sanford, Clare.

Clinton County.

Dr. M. S. Gregory, Eureka; Dr. W. A. Scott, St. Johns; Dr. D. H. Silsby, St. Johns; Dr. W. M. Taylor, Ovid.

Delta County.

Dr. J. L. Conover, Rapid River; Dr. H. W. Long, Escanaba; Dr. J. J. Walch, Escanaba.

Dickinson County.

Dr. Robert E. Hayes, Channing; Dr. Gustavus W. Moll, Foster City; Dr. Samuel E. Cruse, Iron Mountain.

Eaton County.

Dr. Stanley A. Stealy, Charlotte; Dr. Wells B. Fillinger, Grand Ledge; Dr. Clyde L. D. McLaughlin, Vermontville.

Genesee County.

Dr. G. H. Bahlman, Flint; Dr. C. S. Ballard, Flint; Dr. M. W. Clift, Flint; Dr. C. P. Clark, Flint; Dr. Henry Cook, Flint; Dr. V. H. DeSomaskeoy, Flint; Dr. J. W. Evers, Flint; Dr. G. R. Georing, Flint; Dr. B. Goodfellow, Clio; Dr. J. N. Houton, Flushing; Dr. J. Houston, Swartz Creek; Dr. J. G. R. Manwaring, Flint; Dr. F. B. Miner, Flint; Dr. R. S. Morrish, Flint; Dr. W. H. Marshall, Flint; Dr. J. W. Orr, Flint; Dr. A. T. Pauell, Flint; Dr. K. G. Pratt, Flint; Dr. F. E. Reeder, Flint; Dr. W. C. Reid, Grand Blanc; Dr. A. J. Reynolds, Flint; Dr. E. C. Rumer, Flint; Dr. H. E. Randall, Flint; Dr. F. A. Roberts, Flint; Dr. B. R. Sleeman, Linden; Dr. W. H. Winchester, Flint; Dr. L. S. Willoughby, Flint.

Gogebic County.

Dr. C. D. Collins, Ironwood; Dr. G. J. Curry, Watersmeet; Dr. E. B. Stebbins, Ironwood.

Grand Traverse-Leelanau County.

Dr. G. A. Holliday, Traverse City; Dr. G. M. Johnson, Traverse City; Dr. W. D. Mueller, Traverse City; Dr. E. L. Thirlby, Traverse City; Dr. L. N. Yerkes, Elk Rapids.

Gratiot-Isabella-Clare County.

Dr. Ralph E. Dawson, Blanchard; Dr. C. B.

Gardner, Alma; Dr. C. D. Pullen, Mt. Pleasant; Dr. A. R. Mussell, Clare; Dr. B. J. Sanford, Clare; Dr. T. P. Vanderzalm, Blanchard; Dr. M. C. Hubbard, Vestaburg.

Hillsdale County.

Dr. W. R. Atterbury, Litchfield; Dr. T. H. E. Bell, Reading; Dr. B. F. Green, Hillsdale; Dr. E. A. Martindale, Hillsdale; Dr. H. C. Miller, Hillsdale; Dr. I. J. Stoner, Jonesville.

Houghton County.

Dr. J. F. Barton, Calumet; Dr. R. B. Harkness, Houghton; Dr. H. M. Joy, Calumet; Dr. N. S. MacDonald, Houghton; Dr. P. D. MacNaughton, Calumet; Dr. J. D. McKinnon, Calumet; Dr. F. F. Marshall Pequaming; Dr. V. L. Oler, Kearsarge; Dr. B. H. Olmsted, Calumet; Dr. L. M. Power, Hancock; Dr. James Rhines, Laurium; Dr. D. D. Todd, Adrian; Dr. A. R. Tucker, Mohawk; Dr. L. E. Werry, Calumet.

Huron County.

Dr. A. E. W. Yale, Pigeon.

Ingham County.

Dr. H. S. Bartholomew, Lansing; Dr. C. L. Barber, Lansing; Dr. M. L. Cushman, Lansing; Dr. F. J. Drolett, Lansing; Dr. Clara Davis, Lansing; Dr. C. W. Ellis, Lansing; Dr. L. A. Humphrey, Lansing; Dr. M. L. Holm, Lansing; Dr. H. B. Knapp, Lansing; Dr. H. W. Landon, Lansing; Dr. R. R. McCrumb, Lansing; Dr. C. H. Murphy, Lansing; Dr. H. A. Miller, Lansing; Dr. A. E. Owen, Lansing; Dr. R. A. Pinkham, Lansing; Dr. J. G. Rulison, Lansing; Dr. M. Shaw, Lansing.

Ionia County.

Dr. Verner H. Kitson, Ionia; Dr. Julius H. Powers, Ionia; Dr. Perry C. Robertson, Ionia; Dr. Frederick L. Morse, Lake Odessa; Dr. Nelson McLaughlin, Lake Odessa.

Jackson County.

Dr. W. B. Anderson, Jackson; Dr. H. D. Brown, Jackson; Dr. R. Cooley, Jackson; Dr. C. R. Dengler, Jackson; Dr. C. E. DeMay, Jackson; Dr. W. H. Enders, Jackson; Dr. H. L. Hurley, Jackson; Dr. Thos. Hackett, Jackson; Dr. R. G. Hendricks, Jackson; Dr. W. Lake, Grass Lake; Dr. R. H. Leece, Munith; Dr. D. B. Marsh, Jackson; Dr. J. J. McCormick, Jackson; Dr. C. D. Munro, Jackson; Dr. Fred Main, Jackson; Dr. J. A. McQuillan*, Jackson; Dr. J. O'Mara, Jackson; Dr. E. S. Peterson, Jackson; Dr. G. Seybold, Jackson; Dr. G. E. Winter, Jackson.

*Killed in France, October 26, 1918.

Kalamazoo Academy of Medicine.

Dr. R. U. Adams, Kalamazoo; Dr. Ralph E. Balch, Kalamazoo; Dr. W. Collins, Kalamazoo;

Dr. O. H. Clark, Kalamazoo; Dr. L. J. Crum, Kalamazoo; Dr. A. E. Henwood, Kalamazoo; Dr. W. H. Kenzie, Richland; Dr. R. G. Leland, Kalamazoo; Dr. R. A. Morter, Kalamazoo; Dr. N. W. Pinto, Kalamazoo; Dr. R. E. Weeks, Augusta; Dr. G. F. Willey, Kalamazoo; Dr. F. S. Collier, Vicksburg; Dr. D. H. Eaton, Kalamazoo; Dr. J. F. Berry, Kalamazoo; Dr. D. W. Crankshaw, Lawrence; Dr. N. D. Murphy, Bangor; Dr. John Stewart, Hartford; Dr. H. W. Wiley, South Haven; Dr. L. E. Wescott, Gobleville; Dr. W. R. Vaughn, Plainwell; Dr. O. D. Hudnutt, Otsego; Dr. E. D. Osmun, Allegan; Dr. R. P. Stark, Allegan; Dr. H. Stuck, Allegan; Dr. H. Whitney, Otsego; Dr. W. A. Singleton, Hickory Corners.

Kent County.

Dr. H. J. Beel, Grand Rapids; Dr. H. Blackburn, Grand Rapids; Dr. R. C. Breece, Ada; Dr. J. S. Brotherhood, Grand Rapids; Dr. F. A. Boet, Comstock Park; Dr. A. M. Campbell, Grand Rapids; Dr. L. H. Chamberlin, Grand Rapids; Dr. J. R. Coryell, Grand Rapids; Dr. B. R. Corbus, Grand Rapids; Dr. C. W. Deaver, Grand Rapids; Dr. P. J. DePree, Grand Rapids; Dr. H. W. Dingman, Grand Rapids; Dr. J. C. Foshee, Grand Rapids; Dr. C. M. Freeman, Ada; Dr. T. D. Gordon, Grand Rapids; Dr. H. A. Grube, Grand Rapids; Dr. J. T. Hodgen, Grand Rapids; Dr. J. N. Holcomb, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. C. Kenning, Grand Rapids; Dr. F. C. Kinsey, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. H. Muller, Grand Rapids; Dr. A. M. Martin, Grand Rapids; Dr. A. A. McNabb, Grand Rapids; Dr. A. G. McPherson, Grand Rapids; Dr. L. E. Sevey, Grand Rapids; Dr. R. R. Smith, Grand Rapids; Dr. A. B. Smith, Grand Rapids; Dr. F. N. Smith, Grand Rapids; Dr. R. E. Toms, Grand Rapids; Dr. R. T. Urquhart, Grand Rapids; Dr. P. Ver Meulen, Grand Rapids; Dr. W. E. Wilson, Grand Rapids; Dr. S. M. Wells, Grand Rapids; Dr. J. B. Whinnery, Grand Rapids; Dr. F. C. Warnshuis, Grand Rapids.

Livingston County.

Dr. Vern N. Richesen, Howell; Dr. William J. Rynearson, Parshallville.

Macomb County.

Dr. Henry G. Berry, Mt. Clemens; Dr. Harold A. Kirkham, Mt. Clemens; Dr. Charles A. Martin, Mt. Clemens; Dr. Harry F. Taylor, Mt. Clemens; Dr. Russell W. Ullrich, Mt. Clemens; Dr. Arthur J. Warren, Mt. Clemens; Dr. Robert M. Greenshields, Romeo; Dr. Edgar J. Miller, Romeo; Dr. Milton C. Smith, Romeo; Dr. C. B. Lockwood, Washington.

Manistee County.

Dr. Lee Lewis, Manistee; Dr. A. A. McKay,

Manistee; Dr. H. McMullen, Manistee; Dr. W. Norconk, Bear Lake; Dr. L. Ramsdell, Manistee.

Marquette County.

Dr. I. Abrahamson, Negaunee; Dr. A. V. Braden, Ishpeming; Dr. H. T. Carriel, Marquette; Dr. W. B. Lunn, Marquette; Dr. C. J. Larson, Negaunee; Dr. I. Sicotte, Michigamme; Dr. L. L. Youngquist, Marquette.

Mecosta County.

Dr. Wm. T. Dodge, Big Rapids; Dr. Rolla G. Karshner, Big Rapids; Dr. Glen D. Ransom, Big Rapids; Dr. Gordon H. Yeo, Big Rapids.

Menominee County.

Dr. C. R. Elwood, Menominee; Dr. W. R. Hicks, Menominee; Dr. E. V. McComb, Menominee; Dr. H. T. Sethney, Menominee.

Midland County.

Dr. Chas. V. High, Sr., Coleman; Dr. John E. Heslop, Edenville; Dr. James H. Johnson, Midland; Dr. Rene J. St. Louis, Midland.

Monroe County.

Dr. Hugh R. Hildebrant, Dundee; Dr. Herbert W. Landon, Monroe; Dr. Frederick C. Thiede, Monroe.

Montcalm County.

Dr. Don V. Hargrove, Carson City; Dr. Albert S. Barr, Greenville; Dr. Albert J. Bower, Greenville; Dr. Noble W. Miller, Howard City; Dr. Lee E. Kelsey, Lakeview; Dr. Mortimer E. Danforth, Stanton.

Muskegon County.

Dr. C. M. Colignon, Muskegon; Dr. H. S. Cole, Whitehall; Dr. B. R. Eastman, Muskegon; Dr. W. L. Herick, Whitehall; Dr. F. W. Hannum, Muskegon; Dr. V. S. Laurin, Muskegon; Dr. F. N. Morford, Muskegon; Dr. E. S. Thornton, Muskegon.

Oakland County.

Dr. F. S. Bachelder, Pontiac; Dr. S. A. Butler, Pontiac; Dr. L. G. Campbell, Birmingham; Dr. L. A. Farnham, Pontiac; Dr. F. D. German, Franklin; Dr. G. W. MacKinnon, Oxford; Dr. E. E. Orton, Pontiac; Dr. G. P. Raynale, Birmingham.

Oceana County.

Dr. C. Day, Clinton; Dr. G. F. Lamb, Pentwater.

Ontonagon County.

Dr. E. J. Evans, Rockland; Dr. E. A. Florentine, Ewen; Dr. J. L. Kelliher, Phoenix; Dr. E. A. Linger, Rockland; Dr. D. L. Lutes, Victoria.

Otsego County.

Dr. Harry W. Knapp, Gaylord, Mich.

Ottawa County.

Dr. John J. Miller, Berlin; Dr. Harry Loeffers, Coopersville; Dr. Cornelius J. Addison, Grand

Haven; Dr. George H. Thomas, Holland; Dr. William Westrate, Holland; Dr. Clayton A. White, Nunica; Dr. Joe DePree, Zeeland; Dr. W. C. Kools, Holland.

Saginaw County.

Dr. Harvey B. McCrory, Birch Run; Dr. George W. Peart, Burt; Dr. Geo. L. Alger, Saginaw; Dr. James D. Bruce, Saginaw; Dr. Benj. F. A. Crane, Saginaw; Dr. Walter A. DeFoe, Saginaw; Dr. Wm. F. English, Saginaw; Dr. Bernhard Friedlaender, Saginaw; Dr. Leon B. Harris, Saginaw; Dr. Matthew Kollig, Saginaw; Dr. Alexander R. McKinney, Saginaw; Dr. Henry J. Meyer, Saginaw; Dr. Wm. L. Miller, Saginaw; Dr. James L. Passmore, Saginaw; Dr. Norman J. Pike, Saginaw; Dr. Emil P. W. Richter, Saginaw; Dr. Bert B. Rowe, Saginaw; Dr. John T. Sample, Saginaw; Dr. Roy S. Watson, Saginaw; Dr. Arthur E. Leitch, Saginaw.

Sanilac County.

Dr. H. H. Angle, Snover; Dr. J. C. Webster, Peck; Dr. C. G. Woodhull, Decker.

Shiawassee County.

Dr. James A. Rowley, Durand; Dr. Hermon E. Boice, Byron; Dr. Robt. R. Fox, Byron; Dr. Thos. G. Amos, Henderson; Dr. Glenn T. Soule, Henderson; Dr. Alfred F. Arnold, Owosso; Dr. James J. Haviland, Owosso; Dr. Harold A. Hume, Owosso; Dr. Jesse O. Parker, Owosso; Dr. Geo. P. Sackrider, Owosso; Dr. Egerton T. Wilson, Owosso; Dr. William H. Dunham, Shaftsbury; Dr. Arden N. Howe, Vernon.

St. Clair County.

Dr. I. P. Bowden, Port Huron; Dr. F. V. Carney, St. Clair; Dr. G. M. Kesi, Port Huron; Dr. A. J. MacKenzie, Port Huron; Dr. D. W. Patterson, Blain; Dr. G. Waters, Memphis; Dr. W. G. Wight, Yale.

St. Joseph County.

Dr. John J. Kelley, Burr Oak; Dr. Wm. E. Doran, Colon; Dr. Arthur W. Scidmore, Three Rivers.

Tuscola County.

Dr. F. P. Bender, Caro; Dr. W. C. Garvin, Milington; Dr. I. D. McCoy, Cass City.

Washtenaw County.

Dr. James F. Breakey, Ann Arbor; Dr. H. B. Britton, Ypsilanti; Dr. R. B. Canfield, Ann Arbor; Dr. H. W. Emerson, Ann Arbor; Dr. N. B. Foster, Ann Arbor; Dr. C. George, Jr., Ann Arbor; Dr. H. Malagan, Ann Arbor; Dr. Reuben Peterson, Ann Arbor; Dr. V. C. Vaughan, Ann Arbor; Dr. U. J. Wile, Ann Arbor.

Wayne County.

Dr. De Witt C. Adams; Dr. Edward J. Agnelly;

Dr. Herman F. Albrecht; Dr. Frank C. Anderson; Dr. Warren L. Babcock; Dr. Frederick W. Baeslack; Dr. Max Ballin; Dr. Don C. Bartholomew; Dr. Charles Barton; Dr. Robert J. Baskerville; Dr. Robert Beattie; Dr. Harold A. Beck; Dr. Clarence H. Belknap; Dr. William O. Benjamin; Dr. Zina B. Bennett; Dr. Harry S. Berman; Dr. Isadore I. Bittker; Dr. Fred H. Blanchard; Dr. Jacob R. Bolasny; Dr. Edmund W. Bolio; Dr. Ralph H. Bookmyer; Dr. Richard F. Boonstra; Dr. Henry R. Boyes; Dr. Frank B. Broderick; Dr. Clark D. Brooks; Dr. William H. Browne; Dr. Wm. S. Brownell; Dr. Bruno B. Brunke; Dr. John D. Buck; Dr. Frederick G. Buesser; Dr. Glenn A. Bulson; Dr. John K. Burns, Jr.; Dr. Lowell M. Bush; Dr. Thos. P. Camelon; Dr. Geo. H. Campau; Dr. Duncan A. Campbell; Dr. Clarence Candler; Dr. Edward K. Carmichael; Dr. Glenn B. Carpenter; Dr. James G. Carr; Dr. Henry R. Carstens; Dr. John H. Carstens; Dr. Albert E. Catherwood; Dr. Aaron Lee Chapman; Dr. Clarence A. Christensen; Dr. Harold F. Closs; Dr. Don A. Cohoe; Dr. Homer C. Collins; Dr. Lannes I. Condit; Dr. Ray Connon; Dr. Bernard F. Corbett; Dr. Langdon T. Crane; Dr. Ernest K. Cullen; Dr. Hampton P. Cushman; Dr. Samuel S. Danziger; Dr. Milton A. Darling; Dr. Jos. L. Desrosiers; Dr. Harry F. Dibble; Dr. John C. Dodds; Dr. Daniel R. Donovan; Dr. Ira G. Downer; Dr. David B. Downing; Dr. George A. Drescher; Dr. Leo J. Dretska; Dr. Adolph E. Dreyer; Dr. Charles F. DuBois; Dr. Frederick Eakins; Dr. Clarence H. Eisman; Dr. Rollan R. Ensor; Dr. Arthur W. Erksitz; Dr. George E. Fay; Dr. Ray L. Fellers; Dr. Charles J. Foley; Dr. Antonio J. Font; Dr. Walter D. Ford; Dr. Henry E. Fraser; Dr. George E. Frothingham; Dr. Claude B. Gaines; Dr. August E. Gehrke; Dr. Isaac S. Gellert; Dr. Wm. S. Gonne; Dr. John W. Gordon; Dr. James Gostanian; Dr. Raymond S. Goux; Dr. Wm. Gramley; Dr. Hunter L. Gregory; Dr. Thos. R. K. Gruber; Dr. Samuel C. Gurney; Dr. E. W. Haass; Dr. Carl Hanna; Dr. Beverly D. Harison; Dr. Winfred B. Harm; Dr. Albert E. Harris; Dr. Earl R. Harris; Dr. John G. Harvey; Dr. James W. Hawkins; Dr. Austin W. Heine; Dr. Wm. Henderson; Dr. Preston M. Hickey; Dr. Louis J. Hirschman; Dr. Geo. Hoffmeister; Dr. Arthur D. Holmes; Dr. Lawrence N. Host; Dr. Abraham W. Hudson; Dr. Harold S. Hulbert; Dr. Leroy W. Hull; Dr. Willard H. Hutchins; Dr. James W. Inches; Dr. Harry H. Jackson; Dr. Byron H. Jenne; Dr. Alpheus F. Jennings; Dr. Charles G. Jennings; Dr. Nathan J. Jessup; Dr. Morrell M. Jones; Dr. Ladislaus R. Kaminski; Dr. Zeno L. Kaminski; Dr. Wm. J. Kane; Dr. John F. Kelly;

Dr. Johnston B. Kennedy; Dr. Wm. Y. Kennedy; Dr. Frederick C. Kidner; Dr. Edw. D. King; Dr. Paul A. Klebba; Dr. Geo. L. Koessler; Dr. Abraham Kovinsky; Dr. Albert H. Krohn; Dr. Duffield R. Kruger; Dr. Alfred D. LaFerte; Dr. Rudolph H. Lambert; Dr. Carl N. Larsen; Dr. Bror H. Larsson; Dr. A. F. J. Lecklider; Dr. Ernest C. Lee; Dr. Henry R. Leibinger; Dr. Daniel J. Leithauser; Dr. Alfred E. Lemon; Dr. Paul H. Lippold; Dr. Nelson MacArthur; Dr. Robert B. Macduff; Dr. Frank B. MacMullen; Dr. Otis B. Mallow; Dr. Vincent S. Mancuso; Dr. Walter W. Manton; Dr. Thos. B. Marsden; Dr. Robert M. Martin; Dr. James D. Matthews; Dr. Kenneth F. Maxey; Dr. Emil V. Mayer; Dr. Willard D. Mayer; Dr. Frederick McAfee; Dr. Arthur McArthur; Dr. James H. McCall; Dr. Wm. R. McClure; Dr. Carey P. McCord; Dr. Crawford W. McCormick; Dr. Theodore A. McGraw, Jr.; Dr. George E. McKean; Dr. Angus McLean; Dr. H. O. McMahon; Dr. Charles H. Merrill; Dr. Ellsworth P. Mills; Dr. Robert C. Moehlig; Dr. Stephen G. Mollica; Dr. Harold L. Morris; Dr. Walter Muellenhagen; Dr. Charles R. Mueller, Jr.; Dr. Thos. F. Mullen; Dr. Arthur J. Neumann; Dr. Frederick H. Newberry; Dr. Arthur W. Newitt; Dr. Harry J. Noble; Dr. Ralph A. Norris; Dr. Wm. A. O'Brien; Dr. Harold F. Ohrt; Dr. Geo. V. Oill; Dr. Robert W. G. Owen; Dr. Leon E. Pangburn; Dr. W. R. Parker; Dr. G. C. Penberthy; Dr. O. W. Pickard; Dr. Lyman J. Pinney; Dr. George E. Potter; Dr. Presley L. Pound; Dr. Wm. H. Price; Dr. Wynand V. Pyle; Dr. O. M. Randall; Dr. Claude B. Ray; Dr. Harry W. Reed; Dr. Heinrich A. Reye; Dr. James M. Robb; Dr. Paul C. Rohde; Dr. Herman H. Runo; Dr. Frank L. Ryerson; Dr. Homer E. Safford; Dr. Wm. G. Schlegelmilch; Dr. Harry B. Schmidt; Dr. Ernest C. Schultz; Dr. James B. Seeley; Dr. Ward F. Seeley; Dr. A. M. Shafer; Dr. Reed A. Shankwiler; Dr. Lyle O. Shaw; Dr. Harold K. Shawan; Dr. Wm. L. Sherman; Dr. Burt R. Shurley; Dr. Arthur R. Smeck; Dr. A. L. Smith; Dr. Clarence V. Smith; Dr. Eugene Smith, Jr.; Dr. Frank H. Smith; Dr. Frederick J. Smith; Dr. T. H. Smith; Dr. Clarence Stefanski; Dr. Frank T. F. Stephenson; Dr. Alexander M. Stirling; Dr. Lindley H. Stout; Dr. Luther H. Stout; Dr. Frank Suggs; Dr. Hugh A. Sullivan; Dr. Angus P. Sutherland; Dr. Rolfe Tainter; Dr. Griffith A. Thomas; Dr. Arthur R. Timme; Dr. Charles L. Tomsu; Dr. Harry N. Torrey; Dr. Emmett C. Troxell; Dr. Arthur Turner; Dr. Clyde R. Van Gundy; Dr. James A. Van Horne; Dr. George Van Rhee; Dr. Colin C. Vardan; Dr. John W. Vaughan; Dr. Victor C. Vaughan, Jr.; Dr. Milton D. Vokes; Dr. Frank B. Walker; Dr. Jos. A. Wall; Dr. Charles R. Walsh; Dr. Frank N. Wil-

son; Dr. George W. Wilson; Dr. Robert A. Wol-
lenberg; Dr. Grover C. Wood; Dr. Harry B. Yoh;
Dr. John C. Young, Detroit. Joseph H. Chance,
Eloise; Dr. Robert H. Carmichael, Hamtramck;
Dr. Martin W. Caveney, Highland Park; Dr. Geo.
S. Foden, Highland Park; Dr. Richard H. Juers,
Highland Park; Dr. Thomas B. Henry, North-
ville; Dr. Lewis N. Tupper, Redford; Dr. Roy Du
B. Tupper, Redford; Dr. Howard B. Kinyon.
Trenton; Dr. Romeo H. Earle, Wayne; Dr. Glen
L. Coan, Wyandotte; Dr. Wm. H. Homer, Wyand-
otte; Dr. Joseph G. Knapp, Wyandotte; Dr. John
N. Bell, Detroit; Dr. H. G. Palmer, Detroit.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY.

Ann Arbor—Col. V. C. Vaughan, Major Reuben
Peterson, Major J. F. Breakey.

Comstock Park—Capt. F. A. Boet.

Charlotte—Lieut. S. A. Stealy.

Copemish—Lieut. R. R. Huston.

Detroit—Lieut. D. M. Clarke, Lieut. C. J. Foley,
Lieut. R. S. Goux, Lieut. C. J. Jentgen, Colonel A.
McLean, Lieut. E. W. May, Capt. C. H. Merrill,
Lieut. H. E. Northrup, Capt. H. E. Safford, Capt.
F. H. Smith, Lieut. J. M. Sutherland, Capt. J. Ro-
senthal.

Deerfield—Major G. M. Clafin.

Eureka—Capt. M. S. Gregory.

Frankfort—Lieut. C. P. Doyle.

Flint—Lieut. A. N. Howe.

Galien—Lieut. R. H. Snowden.

Grand Rapids—Capt. J. R. Coryell, Capt. R. T.
Urquhart.

Greenville—Capt. A. S. Barr.

Highland Park—Lieut. P. F. Morse, Lieut. W. N.
Braley.

Henderson—Capt. G. T. Soule.

Hickory Corners—Lieut. W. A. Singleton.

Litchfield—Capt. W. H. Atterbury.

Lansing—Lieut. H. A. Miller, Lieut. J. G. Rulison.

Muskegon—Lieut. B. R. Eastman.

Negaunee—Lieut. C. J. Larson.

Ogden Center—Lieut. C. A. Van Dusen.

Portland—Lieut. J. D. Bradfield.

Petoskey—Lieut. B. H. Van Leuven.

Saginaw—Capt. R. S. Watson.

Saugatuck—Lieut. R. J. Walker.

Wheat Allergens-Squibb.—A powder represent-
ing all the soluble proteins contained in wheat. It
is a granular powder nearly white, odorless, some-
what soluble in water and in physiological sodium
chloride solution. Wheat allergens-Squibb has the
actions and uses of Biologically Reactive Food
Proteins. E. R. Squibb and Sons, New York. (*Jour.*
A.M.A., Feb. 22, 1919, p. 573).

Book Reviews

ABSTRACTS OF WAR SURGERY. An Abstract of
the War Literature of General Surgery that has
been published since the Declaration of War in 1914.
Prepared by the Division of Surgery, Surgeon Gen-
eral's Office. St. Louis, Mo. C. V. Mosby Co., 1918.
\$4.00 cloth.

This is a compilation of the work done by the
English, French and Italian Surgeons before we
were in active service and a renewal of what had
been done with our additional force. These ab-
stracts have been compiled from the various surgical
Journals and embody the surgeries of the front line
trenches and all forms of wound infections, and are
grouped under the following headings: General
topics, wound infection and treatment, tetanus, gas
gangrene, abdomen, chest, cardiovascular surgery,
joints, fractures, burns, anesthesia in warfare,
trench-foot, foreign bodies; peripheral nerve injuries,
and jaws and face. The chapter on injuries of the
jaws and face and their early care may easily be
transferred to such injuries of the face and jaws
as occurring in factories, and by following the teach-
ing there given better results will be obtained than
by following some of the present methods.

QUARTERLY MEDICAL CLINICS. A Series of Con-
secutive Clinical Demonstrations and Lectures, by
Frank Smithies, M.D., at Augustana Hospital, Chi-
cago. Volume I, Number I, January, 1919. Pub-
lished by the Medicine and Surgery Publishing Com-
pany, Inc., St. Louis, Mo. Annual Subscription;
\$5.00 paper, \$8.00 cloth. Single copies, \$1.50 paper,
\$2.25 cloth.

Frank Smithies, M.D., F.A.C.P., Associate Professor
of Medicine, School of Medicine, University of Illi-
nois; Gastro-Enterologist to Augustana Hospital;
Medical Consultant to U. S. Marine Hospital; For-
merly Gastro-Enterologist at Mayo Clinic; Fellow of
the American Gastro-Enterological Association, etc.
September-December, 1918.

These clinics present a series of case demonstra-
tions and lectures and each case presents a definite
subject of its own giving the present and past his-
tory, examinations, discussions, and treatment. By
a careful review of all cases given we are strongly
reminded that we often lose sight of important or
minor details in our hurried methods and somewhat
grand stand diagnosis and again our smaller towns
and cities are not all equipped for such care. This
makes it all the more important that these clinics
should be read and studied for they are a valuable
asset and will prove useful to all practitioners.

**A MANUAL OF DISEASES OF THE NOSE, THROAT
AND EAR.** By E. B. Gleason, M.D., Professor of
Otolaryngology in the Medico-Chirurgical College Graduate
School, University of Pennsylvania, Fourth Edition,
thoroughly revised. 12mo of 616 pages, 212 illustra-
tions. Philadelphia and London: W. B. Saunders
Company, 1918. Cloth, \$3.00 net.

This book has been revised a number of times and
it has reached its fourth edition which in itself
speaks favorably. The last edition exceeds all others.
There is a train of conservatism running all through
the book. The student and busy practitioner are often
confounded to make a choice of so many recom-
mendations; herein a few are given which have
proven to be the most useful.

It is plain and clearly written especially the article
on labyrinthine difficulties which is so clearly defined
that many conditions are made plain. The teaching

of watchful waiting is followed by better results than the so-called radical operative work which does not mean radical cures.

The reviewer congratulates the author.

ROENTGENOTHERAPY, by Albert F. Tyler, B.Sc., M.D., Professor of Clinical Roentgenology John A. Creighton Medical College; Attending Roentgenologist St. Joseph's Hospital, Bishop Clarkson Memorial Hospital, Ford Hospital, Immanuel Hospital, Douglas County Hospital and Lord Lister Hospital, Omaha, Nebraska; Member American Roentgen Ray Society; Fellow American Medical Association, etc. 162 pages with 111 illustrations. St. Louis, Mo. C. V. Mosby Company, 1918.

Because of the dearth of reliable texts available in "Roentgenotherapy" this book fills a decided want. It gives especially to the beginner a text in simple terms which can be readily grasped. Detailed technic for the treatment of different conditions has been described and cases capiously illustrated. The material in the book gives evidence of having been the result of a wide and long experience and the scrutiny of all the literature on this subject. The book is of especial value because of lack of over enthusiasm. All deductions are carefully backed up with conservatism which is typical of the author, as we know him. The important points are illustrated, the unusual cures are emphasized by convincing case photographs. The reference literature is as extensive as possible. The book is very free from general statements and all conclusions are well balanced. No literature on this subject has more "Pfhalter" like carefullness or well weighed conservatism. Such a book should be in the hands of surgeons and medical consultants to bring them up to the true possibilities of Roentgentherapy.

ULTRA VIOLET RAYS IN MODERN DERMATOLOGY, by Ralph Bernstein, Philadelphia, Pa. Published by Achey & Gorrecht, 5-9 North Queen St., Lancaster, Penn.

It is admitted that we need more literature on the Ultra Violet Radiotherapy, and this book may be an addition of value provided the reader has sufficient knowledge in light therapy to balance some of the over enthusiasm and general statements of the author. The book lacks in proved case histories, it lacks in convincing illustrations, it lacks in consensus of opinion. It is unfortunate in these times when things are balanced up by all authorities on the subject that so much weight should be given to "my experience, and to my private practice and my ideas" uninfluenced by other ideas. The literature referred to is meager. The authors quoted lack some of the authors supposed to be best informed on the subject and a great deal of emphasis is laid upon manufacturers patented products. The doctor with his vast experience could have easily used his general statements in regard to apparatus and balanced up the scientific conclusions by reference to other literature and it is to be regretted that the book was not published in that spirit.

Benzyl Alcohol.—While experience alone will tell whether or not the local anesthetic benzyl alcohol or phenmethylol will come up to the expectations of the discoverer of its action, it was deemed of sufficient promise by the Council on Pharmacy and Chemistry to warrant its admission to New and Nonofficial Remedies (*Jour. A.M.A.*, Feb. 22, 1919, p. 594).

Miscellany

PROPAGANDA FOR REFORM.

B. Iodine and B. Oleum Iodine.—The Council on Pharmacy and Chemistry reports that while B. Iodine (The B. Iodine Chemical Company) is said to be "Nitrogen Hydrate of Iodin" and B. Oleum Iodine a 5 per cent. solution thereof, the examination made in the A. M. A. Chemical Laboratory indicates that the first is a simple mixture of iodine and ammonium iodid, and the second a solution of iodine in liquid petrolatum. The Council declared these preparations inadmissible to New and Non-official Remedies because: 1. The composition of B. Iodine is incorrectly declared. B. Iodine is not a newly discovered iodine compound, but a mixture of iodine and ammonium iodid. B. Oleum Iodine is not a 5 per cent. solution of B. Iodine as suggested by the statement on the label and in the advertising, but an 0.85 per cent. solution of iodine in liquid petrolatum. 2. Since the solution of B. Iodine in water will have the properties of other solutions of iodine made by the aid of iodid, the therapeutic claim made for it is unwarranted. 3. The names "B. Iodine" and "B. Oleum Iodine" are not descriptive of the pharmaceutical mixtures to which they are applied. 4. The preparations are unessential modifications of established articles. The first has no advantage over tincture of iodine or compound solution of iodine, and the second no advantage over extemporaneous solutions of iodine in liquid petrolatum. (*Jour. A. M. A.*, Feb. 1, 1919, p. 365).

Misbranded Nostrums.—The following nostrums were declared misbranded under the Federal Food and Drugs Act because of the false, fraudulent or misleading claims made for them. M. I. S. T. (Murray's Infallible System Tonic); M. I. S. T. No. 2, Nerve Tonic; Imperial Remedy; "Japanese Wild Cherry Cough Syrup;" "Japanese Herb Laxative Compound;" Dr. E. E. Burnside's Purifico No. 1; Dr. E. E. Burnside's Purifico No. 2; Dr. E. E. Burnside's Purifico No. 3; Emerald Oil; Bristol's Sarsaparilla; Dr. Belding's Six Prairie Herbs; Dr. Carter's K. and B. Tea; "Brazilian Balm;" "Renal Tea;" Las-I-Go for Superb Manhood; Blood Tabs; Dr. Miles Restorative Nerve; Kilmer's Swamp Root; Homenta; Hinkley's Bone Liniment; Kopp's Baby's Friend; Kopp's Kidney Pills; Reuter's Syrup; Garfield Tea; Di-Col-Q; Sloan's Liniment; Bannerman's Intravenous Solution; Cummings Blood Remedy; and Giles' Germicide (*Jour. A.M.A.*, Feb. 8, 1919, p. 439).

Cerelene not Admitted to N. N. R.—Cerelene, a paraffin preparation for the treatment of burns, was submitted to the Council on Pharmacy and Chemistry by the Holliday Laboratories with the statement that it was composed of 84 per cent. paraffin, 15 per cent. myricyl palmitate stated to be purified beeswax, and 1 per cent. purified elemi gum, to which are added oil of eucalyptus, 2 per cent., and betanaphthol, 0.25 per cent. It was stated that on "special order" Cerelene has been made containing oil of eucalyptus and resorcin, oil of eucalyptus and picric acid, and picric acid alone. The Council declared Cerelene inadmissible to New and Non-

official Remedies because there was no evidence to show that this preparation had any advantage over simple paraffin of low melting point (Paraffin for Films—N. N. R. because there is no proof that the medicinal ingredients leave the wax when it is used, and because the constituent "myricyl palmitate" has not been accepted for New and Nonofficial Remedies. (*Jour. A.M.A.*, Feb. 15, 1919, p. 513).

Beef, Wine and Iron.—So long as one of the largest mail order houses in this country continues to sell *Vinum Carnis et Ferri*, N. F. in gallon jugs, the drought from prohibition legislation may not be as noticeable as it might otherwise. Seriously however, is it not about time for the professions of medicine and pharmacy to heave into the discard such utterly unscientific combinations as "Beef, Wine and Iron" (*Jour. A.M.A.*, Feb. 15, 1919, p. 498)?

Misbranded Nostrums.—The following nostrums were declared misbranded under the Federal Food and Drugs Act because of the false, fraudulent or misleading claims made for them: Hall's "Texas Wonder;" King's Liver and Kidney Alterative and Blood Cleanser; En-Ar-Co Oil; Lindsey's Improved Blood Searcher; White Eagle's Indian Oil Liniment; Aqua Nova Vita; Brown's New Consumption Remedy; Akoz Ointment; Akoz Rectal Suppositories; Akoz Powder; Akoz Dusting Powder; Akoz Plaster; Akoz Compound; Fenner's Kidney and Backache Remedy, and Wine of Chenstohow (*Jour. A.M.A.*, Feb. 22, 1919, p. 591).

Styptics.—Ordinary bleeding has a strong tendency to stop spontaneously with the formation of a clot, so that the benefit attributed to a drug that has been used as a hemostatic cannot easily be evaluated. Evidence of the current confusion of cause and effect in relation to local hemostatics has been furnished by P. J. Hanzlik. In general he finds that the local application of vasoconstrictor and astringent agents diminishes or arrests local hemorrhage, while vasodilator and irritating agents (without astringent action) increase local bleeding. The value of the newer thromboplastic agents of the kephalin or tissue extract type is considered as still uncertain. Epinephrin remains as the most efficient and desirable hemostatic agent. Tyramin and pituitary extracts were found efficient, and, unlike epinephrin, they do not increase bleeding later. Astringents were found variably effective, ferric chlorid and tannin standing highest, while alum was disappointing. The vaunted cotarnin salts (stypticin and styptol), antipyrin and emetin were found to increase bleeding on local application (*Jour. A.M.A.*, Feb. 22, 1919, p. 577).

Wildroot Dandruff and Eczema Cure.—Dr. Harvey W. Wiley, in his book "1001 Tests," thus characterizes this preparation: "Contains arsenic, and some phenolic body, probably resorcin; perfumed and colored. The trace of alkaloidal material present was too small for identification. Contains 40 per cent. of alcohol, as declared, and less than one-half of 1 per cent. of nonvolatile matter. Claims that it is an herb compound and a positive remedy for eczema and dandruff obviously untenable" (*Jour. A.M.A.*, Feb. 22, 1919, p. 594)).

NEW AND NONOFFICIAL REMEDIES.

Sulphoichthyolate Preparations.—Preparations containing as their essential constituents salts or compounds of a mixture of acids containing sulphur and designated by the group name "sulphoichthyolic acid" are manufactured from certain bituminous shales. Sulphoichthyolic acid is characterized by a high sulphur content, the sulphur existing largely in the form of sulphonates, sulphones and sulphides. The ammonium compound of this sulphoichthyolic acid—first introduced as ichthyol—has been used extensively. The current estimate of the therapeutic effects of sulphoichthyolate preparations is based almost entirely on the use of ichthyol. As it is not known to what constituent or constituents of ichthyol such effects as it may have are due, the actions of ichthyol cannot be transferred to similar preparations which differ from ichthyol in their composition. The use of sulphoichthyolate preparations is still largely empirical, and the evidence for the use unsatisfactory.

Biologically Reactive Food Proteins.—The purified and concentrated proteins of foods. These protein products are used in cases in which persons show a peculiar hypersensitiveness or idiosyncrasy to certain articles of the dietary, both to determine to which food it is due and to immunize the patient against the effects of the food. The test for sensitiveness is made by scarifying the skin and rubbing in the protein to be tested, either dry or in solution. When the production of an urticarial wheal identifies the protein to which a patient is sensitive, the patient is desensitized by administration of gradually increasing amounts of the offending food of the isolated food protein itself.

Cow's Milk Allergens-Squibb.—A powder representing all the soluble proteins obtained from cow's milk. It is a fine, white, odorless powder, somewhat soluble in water and physiological sodium chloride solution. Cow's milk allergens-Squibb has the actions and uses of Biologically Reactive Food Proteins. E. R. Squibb and Sons, New York.

During February the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Non-proprietary Articles:

Biologically Reactive Food Proteins.

Merck and Co.:

Tannin Albuminate Exsiccated-Merck.

E. R. Squibb and Sons:

Cow's Milk Allergens-Squibb.

Egg Allergens-Squibb.

Wheat Allergens-Squibb.

Takamine Laboratory:

Neoarsaminol, 0.15 Gm. Tubes.

Neoarsaminol, 0.3 Gm. Tubes.

Neoarsaminol, 0.45 Gm. Tubes.

Neoarsaminol, 0.6 Gm. Tubes.

Neoarsaminol, 0.75 Gm. Tubes.

Neoarsaminol, 0.9 Gm. Tubes.

There is no duty we so much underrate, as the duty of being happy—Stevenson.

AN APPEAL FOR NATIONAL MEDICAL RECIPROCITY.

In the interest of the morale of the medical officers who have been left in the service since the signing of the Armistice and as an act of simple justice to all medical men who have abandoned their work in civil life to serve in the Army during the war, an effort should be made through the Governors of the several states or otherwise to secure for the ones who are graduates of reputable medical colleges and who have made good records the right to practice in any State in the Union without examinations. This suggestion is supported by the following:

(A) The object of all Medical Practice Laws is to protect the public from ignorant and vicious Practitioners of Medicine. No State Law regulating the practice of Medicine is passed on any other theory, nor for any other purpose. The graduates of reputable medical schools selected for Army Service and especially those who have made good records in the Army meet all of the requirements demanded by all state laws governing the Practice of Medicine.

(B) Practically all states grant to medical men in the Army and Navy the right to practice in civil communities while in the service. If these men meet the requirements while in the Army and Navy, they certainly meet the requirements when retired to civil life.

(C) Many medical men have been made proficient in special branches of medicine during the war and should be given opportunity to select new locations in which to begin practice as specialists.

(D) Some men have in addition to the loss of their civil practices been broken in health and will find it necessary to begin work again in different climates and environments.

(E) Many having lost their practices at home will find it easier to begin life all over again in new localities. This is particularly true of those who have been much reduced in financial standing. They should be spared the humiliation of having to begin at the bottom and to compete on unequal terms with old competitors who have profited by their absence from home.

(F) The last men to be released from the service will be the most in need of encouragement and help in every possible way. During the war they were regarded by their patients as patriotic men making sacrifices during a great national emergency. Now that the war is over they are thought to be remaining in the army as a matter of choice and are therefore more often censured than praised. The men first out of service will very naturally get the best of whatever practice is recovered by the returning medical officers.

This appeal should be given very careful consideration by the Registration Board. The justice of the same is recognized.

While reciprocity exists between a number of the states, yet those who have not appeared before the examining board and were practicing medicine prior to their entrance into the war could not gain this reciprocity. Some method should be adopted whereby this appeal could be handled in a proper manner and granted.

DISTINGUISHED SERVICE AWARDS.

The commander in chief in the name of the President has awarded the distinguished service cross to the following named officers:

John F. Doudna, Lieut., M. C., U. S. Army, 362d Infantry, Lake City, Mich. For extraordinary heroism in action. This officer was under constant shell fire with his battalion for 17 days, and though he had been painfully wounded by a machine-gun bullet, he remained at his post, rendering first aid to the wounded night and day, performing the duties of two other medical officers who had been incapacitated, in addition to his own. Lieut. Doudna's utter disregard for personal danger and complete devotion to duty made possible the rapid evacuation of the wounded, thus materially keeping up the morale of the combat troops, and alleviating the suffering of the wounded.

Leo J. Crum, Lieut., M. C., U. S. Army, 126th Infantry, Kalamazoo, Mich. For extraordinary heroism in action near Cierges, France, July 31 and August 1, 1918. During the attack against Cierges by his regiment he worked continuously and heroically under fire to treat and evacuate the wounded. When the house in which his first-aid station was located was struck by an enemy shell he safely evacuated all of his patients and promptly established another aid station near the front. His untiring efforts and personal bravery saved the lives of many wounded and suffering men and were a source of inspiration to the entire command.

The Council of National Defense authorizes the following:

The Volunteer Medical Service Corps was organized early in 1918 to serve the Government during the emergency of war. As this emergency has ceased to exist, active membership in the Corps is no longer solicited. However, the survey initiated by this organization last year has proved of such value as a source of information concerning the individual members of the medical profession that the Surgeons General of the Army, Navy and Public Health have requested the Council of National Defense to complete it so as to include every doctor in the country, in order that a permanent record of the profession may at all times be available for reference in future emergencies. Upon their completion, the records will be transferred to the Surgeon General's Library where they will be kept up to date by a force assigned for the purpose, and be accessible to all government bureaus.

Every physician is requested to co-operate with the Council of National Defense in making this record complete by returning at once the questionnaire received or by writing to the Medical Section of the Council of National Defense, Washington, D. C., and requesting that a blank be sent him if through an oversight he did not receive one.

THE HARRISON ACT.

As Amended by the new War Revenue Act, will be mailed postpaid to any druggist, physician, dentist or veterinarian who will send a postal request therefor to "Mailing Department, Parke, Davis & Co., Detroit, Mich." Please observe directions strictly.

WILD LIFE RESERVATIONS IN MICHIGAN.

Mr. and Mrs. E. K. Warren, of Three Oaks, Mich., have just set aside as wild life preserves two tracts of land in Michigan. One is an area of 300 acres, near Three Oaks, consisting partly of virgin forest of beech and maple; the other, of 250 acres, is in the sand dune region on the shore of Lake Michigan, north of Sawyer, Berrien County. These preserves are incorporated in the "Edward K. Warren Foundation," which also includes the Chamberlain Memorial Museum at Three Oaks, opened in 1916. Both tracts have been set aside so that future generations may have an example of the primitive floral and faunal conditions of Southern Michigan, and as a place for carrying out various studies in natural history. The University of Michigan has been asked to make a detailed survey of the reservations and it is planned to extend this survey over an indefinite number of years. Field laboratories will be provided for this purpose by the Foundation.

Two fine new ships of the Emergency Fleet Corporation will soon be honoring the State of Michigan by carrying to the commercial ports of the world the names, "City of Flint," and "City of Detroit." These are the names selected by the two Michigan cities awarded the prize for the greatest percentage of subscribers in the Fourth Liberty Loan. The government set aside two ships for this purpose for each of the five states in the Chicago federal reserve district. Arrangements are being now completed for the christening of the two honor ships awarded Michigan.

As recently announced Flint carried off first place among cities of more than 10,000 people in the Fourth Loan competition by securing bond subscriptions in that campaign from 73.26 per cent. of her population, based on the 1910 census. Detroit was second among the large cities with a 55 per cent. subscription. Grand Rapids came in third with 53.99 per cent. of her inhabitants on record, Lansing was fourth with 51.9 per cent., Adrian was fifth with 32.86 per cent, Bay City sixth with 32 per cent. and Saginaw seventh, with 29.93 per cent. Of the cities under the 10,000 population limit, Alma and East Lansing were found to have secured the highest percentage of subscriptions. Alma had 80.8 and East Lansing 61 per cent. These cities would have been awarded the honor of naming battle tanks, but as the production of tanks was stopped by the signing of the armistice it is now hoped to secure permission to have small merchant ships named after the two winners.

Preparations are now being made for naming committees from among prominent loan workers of Detroit and Flint to attend the launching of the ships to be named after these cities, and to help the vessels down the ways with the customary honors. For Flint Mrs. Marcia Dort, wife of J. Dallas Dort, general Liberty Loan chairman, has been named as sponsor and will break the traditional bottle of champagne over the prow of the Emergency Fleet liner and christen her, "City of Flint." For Detroit William Livingstone, general chairman of the Detroit and Wayne county Liberty Loan committee, has been chosen as sponsor.

As under the laws governing the registration of vessels it is not allowable to have two ships with

the same name, there may be a conflict over "City of Detroit." In that case the name "Wayne" has been selected as second choice. No date has yet been set for the launchings.

A UNIFORM TYPE FOR THE BLIND.

American libraries for the blind are rejoicing over the fact that they will no longer be obliged to have books in five different kinds of raised letters in order to accommodate readers taught in different parts of the country and at different periods. After many years of discussion a uniform type, to be known as "revised Braille," has been agreed upon, and hereafter all books embossed in this country are to be in the new type. "The Deserter," by Richard Harding Davis, was the first book to be published in revised Braille.

THE SOUTH AMERICAN SPIRIT.

The British Red Cross Chapter in the Argentine raised \$23,000 for the British Red Cross "Our Day" fund through a raffle of household goods. Goods to the value of \$10,000 were donated, enabling the committee to offer 200 prizes.

Coca Cola.—Analyses made by federal chemists showed it to contain from 0.92 to 1.30 grains of caffeine to the fluidounce. It would seem that in the interest of the public health the indiscriminate sale to children and adults of an alkaloid like caffeine in the enticing form of a "soft drink" is to be depreciated. (*Jour. A.M.A.*, Jan. 25, 1919, p. 299).

Arsaminol.—A brand of arsphenamine which complies with the New and Nonofficial Remedies standards. Arsaminol is supplied in sealed tubes containing, respectively, 0.1 Gm., 0.2 Gm., 0.3 Gm., 0.4 Gm., 0.5 Gm., and 0.6 Gm. Takamine Laboratory Inc., New York. (*Jour. A.M.A.*, Jan. 18, 1919, p. 193).

Chlorinated Eucalyptol, Squibb.—Eucalyptol chlorinated at room temperature. It is used as a solvent for dichloramine-T in the treatment of infected wounds, etc. The solution should preferably be made as required. E. R. Squibb and Sons, New York.

Egg Allergens-Squibb.—A powder representing all the soluble proteins contained in hens' eggs. It is a fine, white powder, odorless, somewhat soluble in water and physiological sodium chloride solution. Egg allergens-Squibb has the actions and uses of Biologically Reactive Food Proteins. E. R. Squibb and Sons, New York.

"THE NATION'S CREDITORS."

But as they stood there chattering,
Out from the station came
A string of cautious motor cars
Packed full of lean brown men—
The halt, the maimed, the blind, the lame,
The wreckage of the wars—
Their faces pinched and full of pain,
Their eyes still dazed with stress and strain—
The Nation's creditors.

John Oxenham.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XVIII

GRAND RAPIDS, MICHIGAN, MAY, 1919

No. 5

Official Program of the 54th Annual Meeting of the Michigan State Medical Society at Detroit, Wayne County

May 20, 21, 22, 1919

IMPORTANT.

1. When you register secure a Credential Card.

2. Special tickets are required for the Ladies' Automobile Ride and the Theatre Party.

3. Special tickets will be given out only on Wednesday at the Registration Booth from 8:00 A. M. to 1:00 P. M.

OFFICIAL CALL.

The Fifty-fourth Annual Meeting of the Michigan State Medical Society will be held in Detroit, Wayne County, Michigan on Tuesday, Wednesday, and Thursday, May 20, 21 and 22, 1919.

The House of Delegates will convene on Tuesday evening, May 20 at 7:00 P. M.; Wednesday morning, May 21 at 8:00 A. M.; and Thursday morning, May 22, at 8:00 A. M.

The Council will convene in regular session on Tuesday evening, May 20th at 6:00 P. M.

The General Session will convene on Wednesday morning, May 21 at 9:30 A. M., and on Thursday morning, May 22, at 11:30 A. M.

The County Secretaries Association will meet on Tuesday evening, May 20th, at 6:00 P. M.

PLACE OF MEETINGS.

1. The House of Delegates will hold their sessions at the Hotel Statler.
2. The General Sessions will meet at the Hotel Statler.
3. The Council will meet at the Hotel Statler.
4. The Sections on Surgery, Gynecology and Obstetrics, Ophthalmology and Oto-Laryngology, will be at the Hotel Statler.
5. The Sections on General Medicine and Public Health will meet at the Hotel Tuller.

6. The Exhibits will be at the Hotel Tuller.

7. The Registration Bureau will be at the Hotel Tuller.

REGISTRATION.

Early arrivals may register at the Wayne County Medical Society Building, 33 East High Street during all of Tuesday evening, May 20.

The Wayne County Medical Society are planning to meet all incoming trains the evening of Tuesday, May 20th, with automobiles. Look for the banner of the Wayne County Medical Society.

THE COUNCIL.

Chairman—W. T. Dodge, Big Rapids.

Chairman pro tem—W. J. Kay, Lapeer.

Vice-Chairman—W. J. DuBois, Grand Rapids.

Treasurer—D. Emmett Welsh, Grand Rapids.

Secretary—F. C. Warnshuis, Grand Rapids.

Secretary pro tem—D. Emmett Welsh, Grand Rapids.

MEETINGS OF COUNCIL.

Tuesday, May 20, at 6 P. M.

Wednesday, May 21, at 12 Noon.

Thursday, May 22, at 12 Noon.

HOUSE OF DELEGATES.

President—Arthur M. Hume, Owosso.

Secretary—F. C. Warnshuis, Grand Rapids.

Secretary—pro tem—D. Emmett Welsh, Grand Rapids.

FIRST SESSION.

Tuesday, May 20th, at 7:00 P. M., at the Hotel Statler.

ORDER OF BUSINESS:

1. Call to order by the President.
2. Roll call.

3. Reading of the minutes of the last Annual Meeting.
4. Report of the Council.
W. T. Dodge, Chairman, Big Rapids.
W. J. Kay, Chairman pro tem, Lapeer.
5. Report of Delegates to the American Medical Association.
Guy Connor, Detroit.
6. Report of the Committee on Medical Education.
A. M. Barrett, Ann Arbor, Chairman.
7. Report of the Committee on Legislation and Public Policy.
J. B. Bradley, Eaton Rapids, Chairman.
8. Report of the Committee on Venereal Prophylaxis.
H. W. Plaggemeyer, Detroit, Chairman.
9. Report of the Committee on Tuberculosis.
V. C. Vaughan, Jr., Detroit, Chairman.
10. Report of the Committee on Public Health Education.
Francis Rutherford, Grand Rapids, Chairman.
11. Report of the Committee on Civic and Industrial Relation.
F. B. Walker, Detroit, Chairman.
12. Election of Committee on Nominations.
The duty of this committee is to nominate:
(a). First, Second, Third and Fourth Vice-Presidents.
(b). To select place for holding the 1920 Annual Meeting.
(No two members on the nominating committee shall be from the same Councilor District.)
13. Appointment of Business Committee.
By the President.
14. New Business.

SECOND SESSION.

Wednesday, May 21st, at 8:00 A. M., at the Hotel Statler.

1. Roll Call.
2. Miscellaneous Business.
(a). Recommendations to the Council.
(b). Proposals of amendments to the constitution and By-Laws.
3. New Business.
4. Report of Appointed Committees.

THIRD SESSION.

Thursday, May 22nd, at 8:00 A. M., at the Hotel Statler.

1. Roll call.
2. Unfinished Business.
3. Report of committees.
(a). Business.

- (b). Appointed Committees.
- (c). Committee on Nominations.
4. Election of Nominees.
5. Unfinished Business.
6. Miscellaneous Business.
7. Adjournment.

HOUSE OF DELEGATES.

Delegates and Alternates.

NOTE—The black-face type that of the Delegate; the light-face type that of the Alternate.

ALPENA—Branch No. 48

- J. D. Dunlop, Alpena.
E. E. McKnight, Alpena.

ANTRIM-CHARLEVOIX-EMMET—

Branch No. 41

BARRY—Branch No. 26

BAY-ARENAC-IOSCO—Branch No. 4

- H. B. Morse, Bay City.
D. Morton Gallagher, Bay City.
C. H. Baker, Bay City.
J. C. Grosjean, Bay City.

BENZIE—Branch No. 59

BERRIEN—Branch No. 50

- E. J. Witt, St. Joseph.
C. N. Sowers, Benton Harbor.

BRANCH—Branch No. 9

- A. G. Holbrook, Coldwater.
W. H. Baldwin, Coldwater.

CALHOUN—Branch No. 1

- C. E. Stewart, Battle Creek.
A. F. Kingsley, Battle Creek.
S. R. Eaton, Battle Creek.
R. M. Gubbins, Ceresco.

CASS—Branch No. 36

- W. C. McCutcheon, Cassopolis.
E. W. Tonkin, Edwardsburg.

CHEBOYGAN—Branch No. 58

- C. B. Tweedale, Cheboygan.
James R. Stringham, Cheboygan.

CHIPPEWA-LUCE-MACKINAW—

Branch No. 35

- R. Bennie, Sault Ste. Marie.
R. E. Stocker, Brimley.

CLINTON—Branch No. 39

- F. E. Luton, St. Johns.
E. L. Martin, Maple Rapids.

DELTA—Branch No. 38

G. W. Moll, Foster City.
W. A. Lemire, Escanaba.

DICKENSON-IRON—Branch No. 56**EATON—Branch No. 10**

F. R. Blanchard, Eaton Rapids.

GENESEE—Branch No. 24

E. Diamond, Flint.
A. C. Blakley, Flint.

GOGEBIC—Branch No. 52

L. O. Houghton, Ironwood.
W. E. Tew, Bessemer.

**GRAND TRAVERSE-LEELANAU—
Branch No. 18**

H. V. Hendricks, Traverse City.
P. H. Piper, Traverse City.

GRATIOT-ISABELLA-CLARE—Branch No. 25

C. T. Pankhurst, North Star.
W. G. Young, Shepherd.

HILLSDALE—Branch No. 3**HOUGHTON-BARAGA-KEWEENAW—
Branch No. 7**

Alfred LaBine, Houghton.

HURON—Branch No. 47

S. B. Young, Cass City.
W. B. Holdship, Uby.

INGHAM—Branch No. 40

Samuel Osborne, Lansing.
E. I. Carr, Lansing.

IONIA—Branch No. 16

H. Maynard, Ionia.
G. A. Stanton, Belding.

JACKSON—Branch No. 27

F. L. Rose, Jackson.
F. W. Rogers, Jackson.

**KALAMAZOO-VAN BUREN-ALLEGAN—
Branch No. 64**

A. E. West, Kalamazoo.
C. B. Fulkerson, Kalamazoo.
A. L. Robinson, Allegan.
J. C. Maxwell, Paw Paw.
N. L. Goodrich, South Haven.
A. J. Rigterink, Kalamazoo.

KENT—Branch No. 49

J. D. Brooks, Grandville.
S. L. Rozema, Grand Rapids.
A. V. Wenger, Grand Rapids.
J. Kremer, Grand Rapids.
C. W. Brayman, Cedar Springs.
D. G. Houghton, Caledonia.

LAPEER—Branch No. 23

I. E. Parker, Dryden.
F. A. Tinker, Lapeer.

LENAWEE—Branch No. 51

W. S. MacKenzie, Adrian.
G. H. Lamley, Blissfield.

LIVINGSTON—Branch No. 6**MACOMB—Branch No. 48**

A. A. Parisot, Mt. Clemens.
W. Lungerhausen, Mt. Clemens.

MANISTEE—Branch No. 19

L. S. Ramsdell, Manistee.
James A. King, Manistee.

MARQUETTE-ALGER—Branch No. 28

A. W. Hornbogen, Marquette.
R. A. Burke, Diorite.

MASON—Branch No. 17**MECOSTA—Branch No. 8**

J. Burkhardt, Big Rapids.
Clyde Karshner, Big Rapids.

MENOMINEE—Branch No. 55

S. C. Mason, Menominee.
C. R. Elwood, Menominee.

MIDLAND—Branch No. 43

E. J. Dougher, Midland.
L. A. Wardell, Midland.

MONROE—Branch No. 15

H. L. Meck, Petersburg.
V. Sissung, Monroe.

MONTCALM—Branch No. 13

A. E. Savage, Greenville.
W. H. Lester, Greenville.

MUSKEGON—Branch No. 61

G. J. Hartman, Muskegon.

NEWAYGO—Branch No. 50

Willis Geerling, Fremont.
C. B. Long, Fremont.

OAKLAND—Branch No. 3

P. D. Hilty, Birmingham.
J. J. Murphy, Pontiac.

OCEANA—Branch No. 67

O. G. Wood, Hart.
W. L. Griffin, Shelby.

O. M. C. O. R. O.—Branch No. 11**ONTONAGON—Branch No. 66****OSCEOLA-LAKE—Branch No. 30****OTTAWA—Branch No. 32**

R. H. Nichols, Holland.
A. Leenhouts, Holland.

PRESQUE ISLE—Branch No. 63**SAGINAW—Branch No. 14**

T. M. Williamson, Saginaw.
M. D. Ryan, Saginaw.

SANILAC—Branch No. 20

W. Campbell, Brown City.

L. E. Cochran, Peck.

SCHOOLCRAFT—Branch No. 57

E. R. Westcot, Manistique.

S. H. Rutlege, Manistique.

SHIAWASSEE—Branch No. 33

C. M. McCormick, Owosso.

ST. CLAIR—Branch No. 45

R. K. Wheeler, Port Huron.

R. C. Fraser, Port Huron.

ST. JOSEPH—Branch No. 29**TUSCOLA—Branch No. 44**

R. A. Townsend, Fairgrove.

H. A. Barbour, Vassar.

TRI COUNTY—Branch No. 62

G. D. Miller, Cadillac.

S. C. Moore, Cadillac.

WASHTENAW—Branch No. 42

Reuben Peterson, Ann Arbor.

John A. Wessinger, Ann Arbor.

WAYNE—Branch No. 2

James A. McGarvah, Detroit.

F. B. Walker, Detroit.

C. H. Oakman, Detroit.

Frank R. Starkey, Detroit.

James E. Davis, Detroit.

V. J. Cassidy, Detroit.

John N. Bell, Detroit.

Harold Wilson, Detroit.

C. D. Brooks, Detroit.

F. B. Tibbals, Detroit.

R. E. Loucks, Detroit.

Walter J. Wilson, Jr., Detroit.

A. N. Collins, Detroit.

Howard W. Peirce, Detroit.

Angus McLean, Detroit.

G. Van Amber Brown, Detroit.

Theo. A. McGraw, Jr., Detroit.

E. K. Cullen, Detroit.

Burt R. Shurly, Detroit.

Don M. Campbell, Detroit.

Warren L. Babcock, Detroit.

Duncan Campbell, Detroit.

James A. MacMillan, Detroit.

George P. Myers, Detroit.

R. A. C. Wollenberg, Detroit.

L. J. Hirschman, Detroit.

Grant McDonald, Detroit.

F. G. Buesser, Detroit.

R. L. Clark, Detroit.

L. F. C. Wendt, Detroit.

J. C. Dodds, Detroit.

W. D. Ford, Detroit.

GENERAL MEETING.

Hotel Statler, Wednesday, May 21, 1919, 9:30 A.M.

President—Arthur H. Hume, Owosso.

Secretary pro tem—D. Emmett Welsh, Grand Rapids.

1. Call to Order.

2. Invocation.

Rev. Chester B. Emerson, Pastor

North Woodward Congregational Church,
Detroit.

3. Address of Welcome.

Dr. James W. Inches,

Police Commissioner City of Detroit.

4. Address of Welcome.

Dr. John N. Bell, President

Wayne County Medical Society, Detroit.

5. Response.

President, Arthur H. Hume, Owosso.

6. Report of House of Delegates and Announcements.

7. President's Annual Address.

8. Address by the Surgeon General of the U. S. Army.
M. W. Ireland.

9. Address by the Surgeon General of the U. S. Navy.
N. C. Braisted.

10. Address by the Surgeon General of the U. S. Public Health Service.
Rupert Blue.

11. Miscellaneous Business.

12. Nominations for President, 1919-1920.

13. Adjournment.

SECOND GENERAL MEETING.

Hotel Statler, Thursday, May 22, 1919, 11:30 A. M.

1. Report of House of Delegates.

The Secretary.

2. Announcement of Ballot for President.

3. Introduction of President, 1919-1920.

4. Resolutions.

5. Adjournment.

SECTIONAL MEETINGS.**SECTION ON GENERAL MEDICINE.**

First Session, Wednesday Afternoon, May 21, at the Hotel Tu'ler, at 2:00 P. M.

Chairman—Walter J. Wilson, Detroit.

Secretary—William Northrop, Grand Rapids.

(The Secretary of the Section will collect all papers as soon as they are read.)

1. Chairman's Address.

Dr. Walter J. Wilson, Jr., Detroit.

2. *Tabes Dorsalis.*

Dr. Frank R. Starkey, Detroit.
 Discussants—Dr. A. W. Ives, Detroit.
 Lieut. H. A. Reye, Detroit.

3. *The Significance of Focal Infection.*

Dr. C. D. Aaron, Detroit.
 Discussants—Dr. C. G. Jennings, Detroit.
 Dr. E. W. Haass, Detroit.
 Dr. H. M. Rich, Detroit.

4. *Peptic Ulcer.*

Dr. John B. Jackson, Kalamazoo.
 Discussants—Dr. C. D. Aaron, Detroit.
 Dr. C. E. Vreeland, Detroit.
 Dr. N. L. Hoskins, Detroit.

**Second Session, Thursday Morning, May 22, at
 the Hotel Tuller, at 9 A. M.**

1. *Trench Nephritis.*

Major G. E. McKean, Detroit.
 Discussants—Maj. Walter D. Ford, Detroit.
 Capt. F. C. Buesser, Detroit.

2. *Pneumonia as Studied in Base Hospital No. 36.*

Lieut. Col. T. A. McGraw, Detroit.
 Discussant—Capt. Wynand Pyle, Detroit.

3. *Psychological Service in Army Camps.*

Major G. F. Arps, Detroit.
 Discussants—Capt. H. A. Luce, Detroit.
 Lieut. R. L. Clark, Detroit.

4. *A Review of the Epidemic of Cerebro Spinal Meningitis at Camp Jackson.*

Major F. W. Baeslack, Detroit.
 Discussant—Lieut. Don M. Griswold, Detroit.

5. *Subject to be announced later.*

Major J. B. Whinery, Grand Rapids.

**Third Session, Thursday Afternoon, May 22, at
 the Hotel Tuller, at 1:45 P. M.**

1. *Election of Section Officers.*2. *Epidemic Typhoid Fever, illustrated with lantern slides.*

A. R. Hackett, M.D., Detroit.
 Discussants—Dr. C. G. Jennings, Detroit.
 Dr. W. M. Donald, Detroit.

3. *Varicose Ulcers—Causes, Complications and Conservative Treatment. Lantern Slides.*

Dr. Joseph Van Beceleare, Detroit.
 Discussants—Dr. J. H. Andries, Detroit.
 Dr. R. C. Jamieson, Detroit.

4. *The Modern Clinical Conception of Pulmonary Tuberculosis—Changes in our attitude toward this disease. Correlation of X-ray examination and physical signs. Influence of focal infections. Treatment of surgical tuberculosis.*

Dr. Herbert M. Rich, Detroit.
 Discussants—Lt. Col. B. R. Shurly, Detroit.
 Maj. V. C. Vaughan, Jr., Detroit.

SECTION ON SURGERY.

**First Session, Wednesday Afternoon, May 21, at
 the Hotel Statler, at 2 P. M.**

Chairman—Joseph H. Andries, Detroit.

Secretary—F. C. Witter, Detroit.

(The Secretary of the Section will collect all papers as soon as they are read.)

1. *Chairman's Address.*2. *Surgery of the Supra-Spinatus Muscle.*

Dr. A. S. Kitchen, Escanaba.
 Opening Discussion—Dr. C. E. Boys, Kalamazoo.

3. *Insult and Injury to Tissues and Their Surgical Repair.*

Capt. Guy M. Johnson, Traverse City.
 Opening Discussion—Dr. A. O. Hart, St. Johns.

4. *When Should Cholecystectomy Be Done?*

Dr. William J. Gillette, Toledo, Ohio.
 Opening Discussion—Dr. A. D. McAlpine, Detroit.

**Second Session, Thursday Morning, May 22, at
 the Hotel Statler, at 9:00 A. M.**

1. *Intestinal Obstruction.*

Dr. Henry J. Vandenberg, Grand Rapids.
 Opening Discussion—Dr. L. W. Toles, Lansing.

2. *A New Aid in the Early Recognition of Post-Operative Ileus.*

Lieut. Col. Jas. T. Case, Battle Creek.
 Opening Discussion—Dr. G. L. LeFevre, Muskegon.

3. *Prostatic Surgery.*

Maj. E. Starr Judd, Rochester, Minn.
 Opening Discussion—Dr. F. W. Robbins, Detroit.

4. *Observations on the Treatment of Empyema by the Closed Method.*

Dr. William F. Campbell, Brooklyn, N. Y.
 Opening Discussion—Dr. C. G. Darling, Ann Arbor.

5. *The Treatment of Infected Wounds with Demonstration of the Carrell-Dakin Technic.*

Capt. Cyrus B. Gardner, M. C., U. S. A.,
 General Hospital No. 35, West Baden, Ind.
 Opening Discussion—Dr. William Lyman, Flint.

6. *The Adaptation of War Surgery to Civilian Practice.*

a. Fracture of the extremities, the use of splints.

- b. Infections; treatment.
- c. Debridement.
- d. Foreign body removals.
- e. Transfusions.
- f. Wound closures.
- g. Short quick anesthesia.

Major F. B. Walker, M. C., Detroit.

Opening Discussion—Dr. J. G. Turner, Houghton.

7. Some Surgical Principles Evolved from Military Surgery in A. E. F.

Col. Angus McLean, M. C., Detroit.

Opening Discussion—Dr. R. C. Stone, Battle Creek.

8. Reconstruction of the Wounded.

- a. Different types of injuries to nerves, soft parts and bone.
- b. Discussion of physio therapy and vocational education in industrial injuries.

Major Dean Lewis, M. C., Chicago, Ill.

Opening Discussion—Lieut. Col. H. N. Torrey, Detroit.

Third Session, Thursday Afternoon, May 22, at 2 P. M.

Clinic at U. S. Army General Hospital, No. 36, Lieut. Col. A. T. Cooper, Commanding. (Ford Hospital, West Grand Boulevard and Hamilton.)

Clinic will be confined to bone and joint injuries received overseas. Under direction of Major F. C. Kidner, M. C., Chief of Orthopedic Section.

1. 2 P. M. to 3 P. M. Operations.

Major F. C. Kidner.

2. 3 P. M. to 4 P. M. Demonstration of cases in amphitheatre by members of the staff of the hospital.

3. 4 P. M. to 5 P. M. Inspection of the Hospital including Physio Therapeutical and Educational Departments.

SECTION ON GYNECOLOGY AND OBSTETRICS.

First Session, Wednesday Afternoon, May 21, at the Hotel Statler, at 2:00 P. M.

Chairman—G. A. Kamperman, Detroit.

Secretary—C. E. Boys, Kalamazoo.

(The Secretary of the Section will collect all the papers as soon as they are read.)

1. Observations on the Treatment of Salpingitis.

Dr. Mark T. Goldstine, Chicago, Ill.

2. The Relationship of Drainage to Puerperal Infections after Cases of Abortion and Full Term Deliveries.

Dr. C. Hollister Judd, Detroit.

3. Inversion of the Uterus.

Dr. H. Wellington Yates, Detroit.

4. The Advantages of Routine Rectal Examination During Labor.

Dr. Leslie L. Bottsford, Ann Arbor.

Second Session, Thursday Morning, May 22, at the Hotel Statler, at 9:00 A. M.

1. When is Sterilization of Women Justifiable?

Dr. Reuben Peterson, Ann Arbor.

2. The Use of Corpus Luteum in Pregnancy.

Dr. Walter E. Welz, Detroit.

3. A General Surgeon's Experience with Uterine Fibroids and their Complications.

Dr. C. A. Hamann, Cleveland, Ohio.

4. Hysterectomy for Fibroid—Illustrated by motion pictures.

Dr. Herbert W. Hewitt, Detroit.

SECTION ON OPHTHALMOLOGY AND OTO-LARYNGOLOGY.

First Session, Wednesday Afternoon, May 21, at the Hotel Statler, at 2:00 P. M.

Chairman—L. A. Roller, Grand Rapids.

Secretary—C. N. Colver, Battle Creek.

(The Secretary of the Section will collect all papers as soon as they are read.)

1. Nasal Deformities—Illustrated with lantern slides.

Dr. Myron Metzenbaum, Cleveland, Ohio.

2. Importance of Serological Examination in Eye and Ear Diseases.

Dr. Don M. Campbell, Detroit.

3. Subject to be announced later.

Dr. C. H. Baker, Bay City.

Second Session, Thursday Morning, May 22, at the Hotel Statler, at 9:00 A. M.

1. Cavernous Sinus Thrombosis with Report of a Case.

Dr. L. V. Stegman, Battle Creek.

Opening Discussion—Dr. E. P. Wilbur, Kalamazoo.

2. The Flight Surgeon's Relations to the Flyer.

Dr. George E. Frothingham, Detroit.

3. From 8 A. M. until 9 A. M. Doctor Edward J. Bernstein of Detroit will give a demonstration of the Sluder Tonsil Operation at Grace Hospital.

Third Session, Thursday Afternoon, May 22, at the Hotel Statler, at 2:00 P. M.

1. Election of Section Officers.

2. The Pathology of Mastoiditis with Special Reference to its Clinical Significance.

Dr. R. Bishop Canfield, Ann Arbor.

3. Our Present Day Treatment of Diseases of the Ear in the Light of Medical History.

Dr. Emil Amberg, Detroit.

SECTION ON PUBLIC HEALTH.

Session, Wednesday Afternoon, May 21, at the
Hotel Tuller at 2:00 P. M.

Chairman—R. M. Olin, Lansing.

Secretary—C. C. Slemons, Grand Rapids.

(The Secretary of the Section will collect all papers as soon as they are read.)

1. Relationship of the State Board of Health Laboratory to the General Practitioner.
Dr. C. C. Young, Lansing.
2. Subject to be announced later.
Dr. Nagle, Health Officer, Jackson.
3. National Welfare.
Dr. V. C. Vaughan, Ann Arbor.

CLINICS.

Under the auspices of the Alumni Association of the Detroit College of Medicine and Surgery, Clinics are to be held in various Detroit Hospitals from May 13 to May 20, inclusive.

ENTERTAINMENT.**Tuesday Evening, May 20—8:30 to 12:00**

Wayne County Medical Society Building, 33 East High St.: Luncheon, Vaudeville, Motion Pictures.

Wednesday, May 21.

All members of the Michigan State Medical Society, and their friends, are invited by the Michigan State Telephone Company to visit the various departments of the Company. Visitors will be at the Main Building, Clifford and Washington Blvd., at 12:30 P. M. The exchanges of the business district will be inspected and all members of the State Society and their friends will then be the guests of the Company at luncheon.

Wednesday Afternoon—2:00 P. M.

Ladies' Automobile Ride. Leaving Hotel Statler at two o'clock.

Wednesday Evening.

Theatre Party, Temple Theatre. All Members and ladies.

COMMITTEES.**Wayne County Medical Society Committees.****General Arrangements Committee.**

F. B. Tibbals, Chairman.

John N. Bell, Secretary.

Sub-Committees.

1. Committee of Automobiles—Guy L. Connor, Chairman.
2. Committee of Entertainment—Harold Wilson, Chairman.
3. Committee of Exhibits—J. Walter Vaughan, Chairman.
4. Committee of Finance—Ernest W. Haass, Chairman.
5. Committee of Hotels, Halls, Meeting Places and Registration—Louis J. Hirschman, Chairman.

6. Committee of Printing, Badges, Posters—E. H. Sichler, Chairman.

SUB-COMMITTEES.**Committee of Automobiles.**

Guy L. Connor, Chairman.

W. J. Wilson, Jr., Vice-Chairman.

- Andries, R. C., 641 David Whitney Bldg.
Babcock, W. L., Grace Hospital.
Ballin, Max, 355 Woodward Ave.
Boulter, J. H., David Whitney Bldg.
Blain, A. W., 727 East Jefferson Ave.
Beisman, J., 1058 Brush St.
Brown, G. Van Amber, J. Henry Smith Bldg.
Campbell, Don M., J. Henry Smith Bldg.
Carstens, J. H., David Whitney Bldg.
Cassidy, W. J., David Whitney Bldg.
Chene, George, David Whitney Bldg.
Clark, D. R., David Whitney Bldg.
Collins, A. H., 20 Martin Place.
Donald, W. M., 979 East Jefferson Ave.
Drake, H. B., Shurly Bldg.
Duffield, George, J. Henry Smith Bldg.
Forbes, E. B., David Whitney Bldg.
Ford, W. D., 1022 Third Ave.
French, A. L., 45 West High St.
Frothingham, G. E., 700 Woodward Ave.
Freund, H. A., 357 Woodward Ave.
Fullenwider, A. C., 1656 Woodward Ave.
Garbutt, V. L., 22 Adelaide.
Gleason, J. E., David Whitney Bldg.
Gilman, R. W., 33 Peterboro St.
Gorenflo, A. H., Washington Arcade.
Grant, L. E., David Whitney Bldg.
Haas, E. W., Fine Arts Bldg.
Hackett, W. A., David Whitney Bldg.
Hamilton, S., Harper Hospital.
Hanna, S. C., Harper Hospital.
Haynes, L. W., David Whitney Bldg.
Hickey, P. M., Shurly Bldg.
Hewitt, H. W., David Whitney Bldg.
Hipp, W., 1054 Meldrum Ave.
Hoops, G. E., 347 Merrick Ave.
Hoskins, N., David Whitney Bldg.
Hoyt, B. R., 935 Vinewood Ave.
Irvine, G. W., Washington Arcade.
Ives, A. W., David Whitney Bldg.
Jamieson, R. C., David Whitney Bldg.
Judd, C. Hollister, David Whitney Bldg.
Keane, W. E., 101 West Fort St.
Karr, H. S., 603 Kresge Bldg.
Kelly, F. A., David Whitney Bldg.
Kennedy, J. B., Washington Arcade.
King, J. E., 355 Woodward Ave.
Kuhn, C. F., 46 E. Warren Ave.
LaFerte, D., David Whitney Bldg.
Loucks, R. E., David Whitney Bldg.
Lowrie, G. B., Washington Arcade.
McAlpin, A. D., Washington Arcade.
McClelland, C. C., David Whitney Bldg.
McCormick, F. T., 141 Chandler Ave.
McDonald, Grant, David Whitney Bldg.

McKean, Geo. E., David Whitney Bldg.
 McLean, Angus, 641 David Whitney Bldg.
 McVeigh, Jas. A., J. Henry Smith Bldg.
 MacMillan, Jas. A., David Whitney Bldg.
 Martin, E. G., David Whitney Bldg.
 Maunders, F. E., 215 Jos. Campau.
 Moon, A. R., Pallister Ave.
 Palmer, R. J., David Whitney Bldg.
 Potter, G. E., 1491 Woodward Ave.
 Reberdy, G. J., David Whitney Bldg.
 Robbins, F. W., Kresge Bldg.
 Rowland, R. S., David Whitney Bldg.
 Seymour, W. J., Kresge Bldg.
 Shurly, B. R., Shurly Bldg.
 Smith, V. L., 270 Woodward Ave.
 Sorock, E. M., 909 Woodward Ave.
 Stapleton, W. J., 176 Lafayette Ave.
 Stevens, R. H., David Whitney Bldg.
 Tiffin, W. E., 1870 Woodward Ave.
 Torrey, H. N., David Whitney Bldg.
 Watkins, J. F., David Whitney Bldg.
 Vickham, A. B., 1700 Grand River Ave.
 Williamson, H., 601 Interurban Bldg.
 Wollenberg, R. C., David Whitney Bldg.
 Van Baalen, M. R., 41 Duffield St.
 Walker, Thaddeus, 33 East High St.
 Yates, H. Wellington, David Whitney Bldg.

Committee of Entertainment.

Harold Wilson, Chairman.
 Neil Hoskins.
 George Chene.
 A. D. Holmes.
 J. E. King.

Ladies Entertainment Committee.

Mary G. Haskins, Chairman.
 Grace Clark.
 Myra Babcock.
 Jean Vernier.

Committee on Exhibits.

J. Walter Vaughan, Chairman.
 R. L. Clark.
 Grant McDonald.

Committee of Finance.

E. W. Haass, Chairman.
 Max Ballin.
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Committee of Hotels, Halls, Meeting Places and Registration.

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 Carl Meloy.
 Wm. H. Morley.
 E. J. O'Brien.
 A. R. Richardson.

Committee of Printing, Badges and Posters.

E. H. Sichler, Chairman.
 Burton D. Parker.
 Clarence E. Simpson.

GARAGES.

(All Near Headquarters.)

Central Garage, 108 East Jefferson Ave.
 Storage (24 hours)\$1.00
 Wash and Polish 2.00 and up
 D. A. C. Garage, 338 Randolph St.
 Storage (24 hours)\$1.00
 Wash and Polish 2.00 and up
 Detroit Auto Garage, 68 West Adams Ave.
 Storage (24 hours)\$1.00
 Wash and Polish 1.50 and up
 Down Town Garage, Cass and Congress Sts.
 Storage (24 hours)\$1.00
 Wash and Polish 1.75 and up
 Elizabeth Garages, 289 Cass Ave., and 85 East
 Elizabeth St.
 Storage (24 hours)\$.75
 Wash and Polish 1.75 and up

MICHIGAN STATE TELEPHONE COMPANY PHYSICIANS.

Tuesday, May 20, 1919.

PROGRAM.

Headquarters—Health Department, 10th Floor
 Kresge Building, Park and Adams Aves.

2:00 P. M. Inspection of the Health Department.

Automobile trip to Residential Offices.

Inspection of the Main, Cherry and Long Distance Exchanges.

Inspection of Operator's Training Department. (The wives of the Company Physicians are invited to make the afternoon tour of inspection of the Telephone Company offices.)

6:00 P. M. Dinner to visiting physicians at Detroit Athletic Club, given by Mr. George M. Welch, General Mgr.

8:00 P. M. Dr. Cassius H. Watson of New York, Medical Director of the American Telephone & Telegraph Company. Subject to be announced.

"Fractures of the Cranium." Illustrated by Stereopticon views.

Dr. Edwin R. LeCount, Chicago.

Professor of Pathology, Rush Medical College. Pathologist to Presbyterian and Cook County Hospitals.

"Injuries to the Knee-joint." Illustrated by Stereopticon views.

Dr. Carl B. Davis, Chicago.

Professor of Surgery, Rush Med. College.

Conveyances will be provided leaving the Health Department of the Telephone Company, 10th Floor Kresge Building for the Garfield office at 5:30 P. M. where the ladies will be entertained at dinner by the Traffic Department, who have also provided entertainment during the evening.

UNITED STATES
MEDICAL
EXECUTIVES

MEMBERS OF THE MICHIGAN
STATE MEDICAL SOCIETY
ENLISTED IN SERVICE

PAST PRESIDENTS
OFFICERS
MEMBERS OF COUNCIL
STATE BOARD OF EXAMINERS
STATE BOARD OF REGISTRATION

HOSPITALS OF MICHIGAN

VENEREAL DISEASE
DEPARTMENT OF MICHIGAN



MAJOR GENERAL W. M. IRELAND
Surgeon General U. S. Army

MAJOR GENERAL W. M. IRELAND

Surgeon General U. S. Army

Surgeon General Ireland graduated from the Detroit College of Medicine in 1890 and served as an interne in St. Mary's Hospital. He entered the service in 1891; served at our frontier posts before the Spanish American War; served in the Santiago campaign; went to the Philippines in 1899 as Surgeon of a volunteer regiment and remained there until April, 1903; served as an assistant in the Surgeon General's Office, Washington, D. C., during the administrations of Surgeon Generals Robert M. O'Reilly and George H. Torney; returned to the Philippines in 1912 for a three years' tour in service; was Commanding Officer, Base Hospital No. 1, Fort Sam Houston, Texas, from October, 1915, to May, 1917; went to France with General Pershing's Headquarters in May, 1917, and remained until October, 1918, when he was appointed Surgeon General and recalled to this country for duty.



REAR ADMIRAL WM. CLARENCE BRAISTED
Surgeon General U. S. Navy

REAR ADMIRAL WM. CLARENCE BRAISTED

Surgeon General U. S. Navy

Rear Admiral William Clarence Braisted was born at Toledo, Ohio, October 9, 1864. Studied at University of Michigan, graduating in 1883 with the degree of Ph.B. Graduated in Medicine at College of Physicians and Surgeons, Columbia University, N. Y., in 1886. (Honor man in his class.) Served as interne at Bellevue Hospital, N. Y., 1886-1888. Practiced medicine in Detroit, Mich. 1880-1890 and served as assistant neurologist, Harper's Hospital; attending surgeon Jenks Sanitarium for Women, visiting physician to Women's hospital. Appointed Assistant Surgeon in the Navy, September 24, 1890. He served on U. S. S. *Vesuvius*, *Columbia*, *Ohio*, *Detroit*, *Topeka*, *Massachusetts*, *Connecticut*, *Wyoming*, *Utah*, and other vessels and at various Naval Hospitals and Stations such as *Norfolk*, *Newport*, etc. Served during two different periods as instructor in surgery at the U. S. Naval Medical School, Washington, D. C. Decorated by the President of Venezuela for zeal and skill in caring for the wounded after the battle of Puerto Cabello. Fitted out and equipped the Hospital Ship "Relief." Represented the Medical Department of the U. S. Navy in Japan during the Russo-Japanese War. His report of the medical organization and work of the Japanese led to his being decorated by the Emperor of Japan. The report was published by the Navy Department and by Congress. Appointed Assistant Chief of Bureau of Medicine and Surgery by Surgeon General P. M. Rixey in 1906 and continued in that office by Surgeon General Charles F. Stokes. During this six year period of service he organized the operations of the Bureau, founded the U. S. Naval Medical Bulletin and for one year was, with Dr. Rixey attending physician to the White House, during the administration of Theodore Roosevelt. In July, 1912, he was appointed Fleet Surgeon of the U. S. Atlantic Fleet. In 1913 he was elected president of the Association of Military Surgeons of the U. S. In February, 1914, was appointed Surgeon General U. S. Navy. Given permanent rank of Rear Admiral dating from August 29, 1916 and has consequently had the conduct of Naval Medical affairs throughout the present war. Has brought about the organization and enlargement of the Medical and Hospital Corps by securing necessary legislation for increased personnel with increased rank and pay. Hospital construction and administration of the most up to date kind secured for the Navy. Cooperated in the abolition of wine messes in the Navy. Established special training schools for the Hospital Corps. The first hospital ship of the Navy to be designed and fitted out from the keel up for the special purposes of the Medical Department now underway at the Navy Yard, Philadelphia undertaken under his auspices. Caused to be prepared the book of instruction for the Hospital Corps, and the Manual of the Medical Department for Medical Officers, the Compend for Masters of Auxiliary vessels, the Supplement to the Medical Bulletin for the instruction of the Hospital Corps, special reports on the war in Europe, etc. Degrees: Ph.B., University of Michigan; M.D., Columbia University; LL.D., University of Michigan; Sc.D., Northwestern University. Is a Fellow of the Am. College of Surgeons. Member, Board of Visitors, Government Hospital for the Insane, Washington, D. C. President, Board of Directors, Columbia Hospital, Washington, D. C. Vice Chairman, War Relief Board of the Red Cross and member of its Executive and Central Committees. President, National Board of Medical Examiners. Member Am. Med. Assn., So. Med. Assn., Am. Academy of Medicine. Member Advisory Board Assoc. of Military Surgeons. Member of Council of Nat. Defense and various other organizations.



SURGEON GENERAL RUPERT BLUE
U. S. Public Health Service

SURGEON GENERAL RUPERT BLUE

U. S. Public Health Service

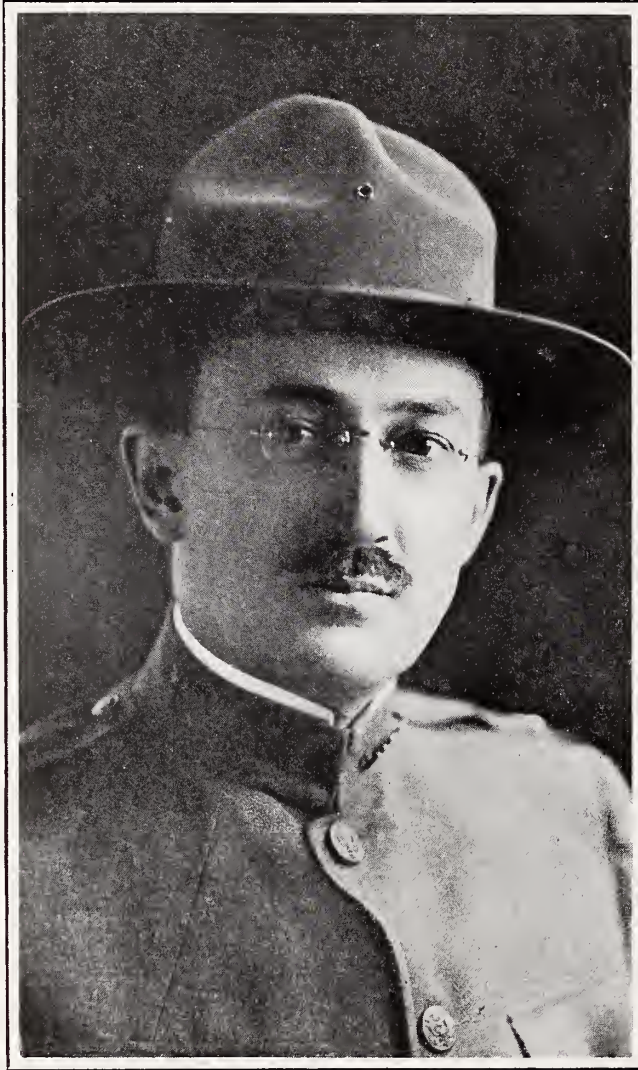
Surgeon General Rupert Blue was born in Richmond County, N. C., on May 30, 1867 and the son of John G. and Annie M. Blue. Dr. Blue attended college at the University of Virginia and later received the degree of Doctor of Medicine from the University of Maryland in the year 1892. In 1909 the University of Maryland conferred upon him the degree of D. Sc. The following year Dr. Blue graduated from the London School of Tropical Medicine. In 1913 the University of Wisconsin conferred upon him the degree of D. Sc., and in the same year he was the recipient from the University of Michigan of the degree of Dr. Public Health.

The public career of Surgeon General Blue began with his entrance into the corps of the Public Health Service as an interne in 1892. The following year he was commissioned an Assistant Surgeon. In 1897 he was promoted to the rank of Passed Assistant Surgeon and in 1909 reached the grade of Surgeon. On January 8, 1912, he was appointed by the President to the position of Surgeon General of the Public Health Service, which position he has held consecutively since that date.

During his career in the Public Health Service, Dr. Blue served with distinction at stations of the Public Health Service located at Cincinnati, Galveston, Charleston, S. C., San Francisco, Portland, Ore., Milwaukee, Genoa, Italy, New York, Norfolk, and New Orleans.

During his tour of duty at San Francisco, Dr. Blue was in charge of operations for the eradication of bubonic plague, 1903-1904, and also during the second campaign against plague in 1907-1908. Dr. Blue likewise served through the epidemic of yellow fever in New Orleans in 1905, and was director of sanitation of the Jamestown Exposition in 1907.

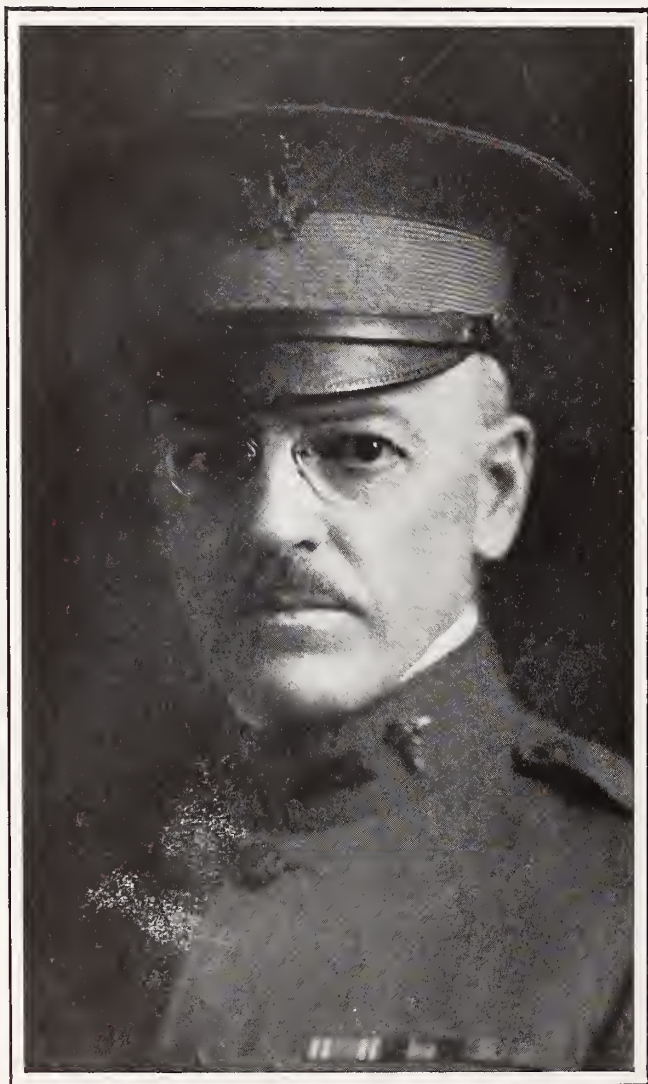
Dr. Blue was elected President of the American Medical Association in 1915 and President of the Association of Military Surgeons of the U. S. A. in the same year.



COL. W. L. BABCOCK
Detroit



COL. ANGUS McLEAN
Detroit



COL. WALTER R. PARKER
Detroit



LIEUT. COL. PRESTON M. HICKEY
Detroit



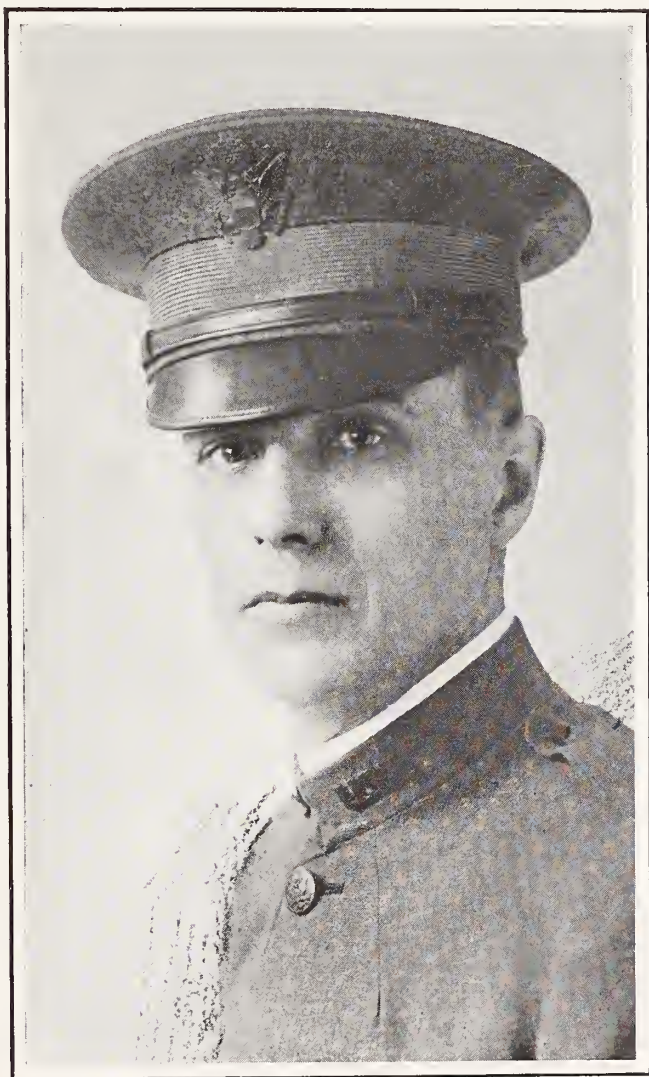
LIEUT. COL. W. H. HUTCHINGS
Detroit



LIEUT. COL. F. H. NEWBERRY
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LIEUT. COL. BURT R. SHURLEY
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LIEUT. COL. JOHN W. VAUGHAN
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CAPTAIN C. H. MERRILL
Detroit

MAJOR G. L. COAN
Wyandotte

LIEUT. J. G. HARVEY
Detroit



MAJOR W. D. FORD
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MAJOR THOS. P. CAMELON
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Franklin

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CAPTAIN H. E. SAFFORD
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Detroit

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Birmingham

CAPTAIN O. W. PICKARD
Detroit



CAPTAIN E. O. SAGE
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LIEUT. L. G. CAMPBELL
Birmingham

CAPTAIN G. W. MacKINNON
Oxford

CAPTAIN C. L. HATHAWAY
Orion



CAPTAIN W. H. DIEBEL
Detroit

CAPTAIN P. I. FROUDE
Detroit

LIEUT. J. R. RUPP
Detroit

LIEUT. L. C. DONNELLY
Detroit

MAJOR W. F. SEELEY
Detroit



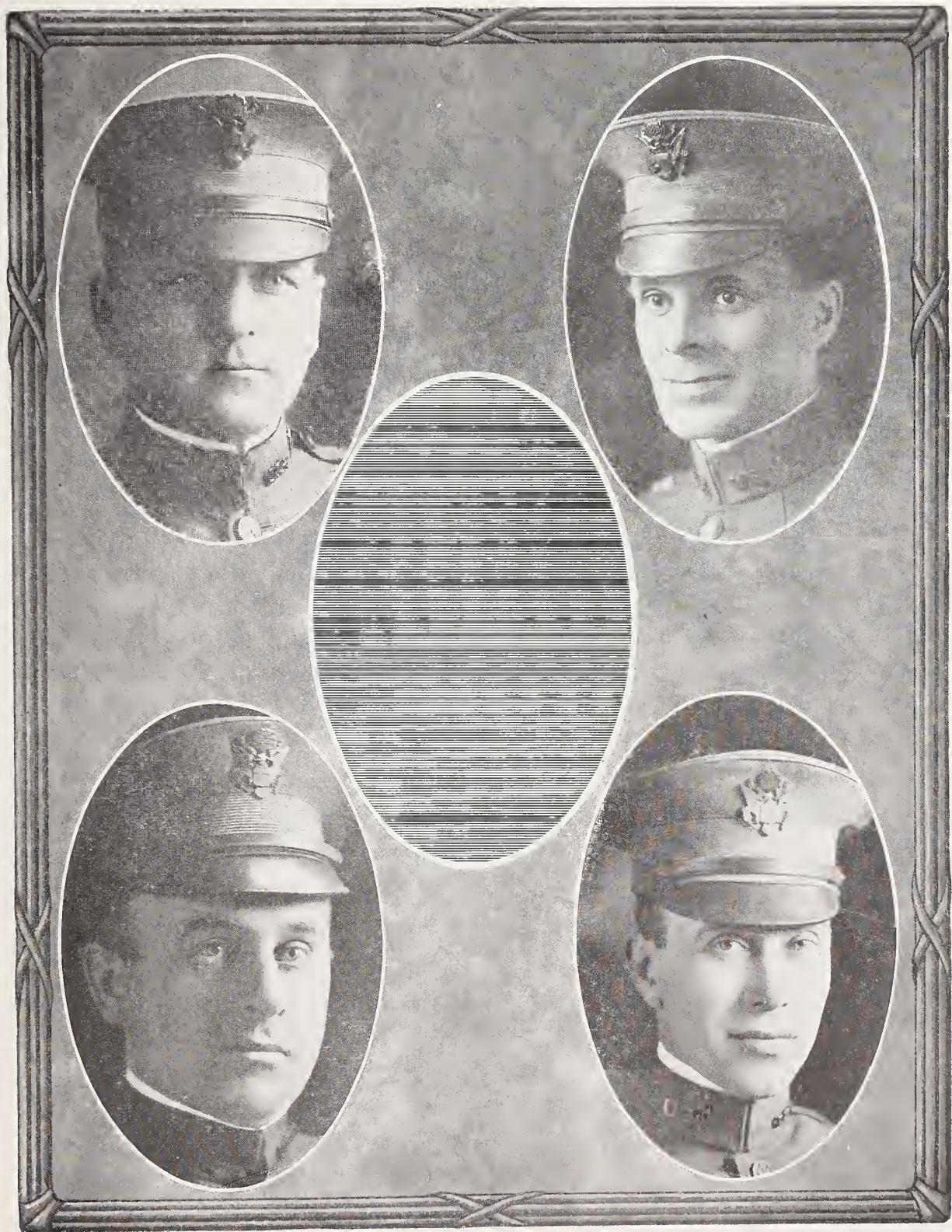
CAPTAIN J. W. INCHES
Detroit

CAPTAIN L. I. CONDIT
Detroit

MAJOR F. B. WALKER
Detroit

MAJOR WILFRID HAUGHEY
Battle Creek

CAPTAIN WILLIAM GRAMLEY
Detroit

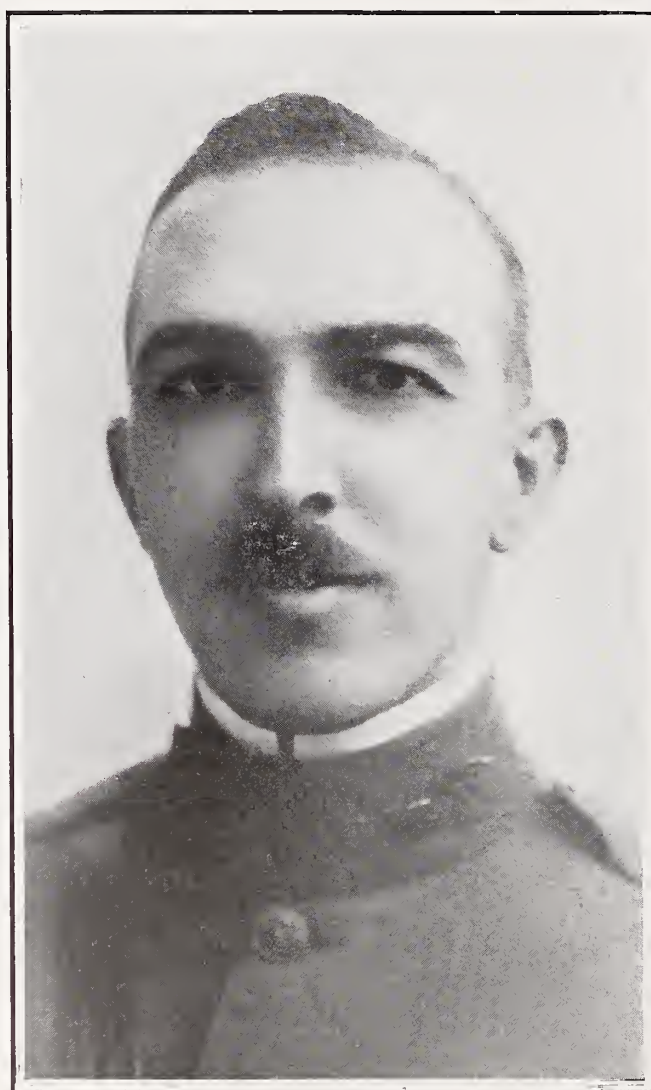


CAPTAIN H. H. RUNO
Detroit

MAJOR C. D. BROOKS
Detroit

CAPTAIN F. STAPLES BACHELDER
Pontiac

LIEUT. C. J. FOLEY
Detroit



LIEUT. JAMES A. McQUILLAN

Killed in Service Oct. 26, 1918

Jackson



DR. CLARA M. DAVIS

Overseas Service from Oct. 29, 1917, to Jan. 24, 1919
Lansing



CAPTAIN M. L. HOLM
Lansing

CAPTAIN A. E. OWEN
Lansing

CAPTAIN T. H. E. BELL
Reading

CAPTAIN C. L. BARBER
Lansing

MAJOR H. S. BARTHOLOMEW
Lansing



CAPTAIN C. D. MUNRO
Jackson

CAPTAIN B. F. GREEN
Hillsdale

CAPTAIN MILTON SHAW
Lausling

CAPTAIN W. H. ATTERBURY
Litchfield

CAPTAIN C. H. MURPHY
Lansing



LIEUT. D. B. MARSH
Jackson

CAPTAIN W. B. ANDERSON
Jackson

LIEUT. H. A. MILLER
Lansing

CAPTAIN W. H. ENDERS
Jackson

CAPTAIN G. A. SEYBOLD
Jackson



LIEUT. COL. J. T. CASE
Battle Creek



CAPTAIN J. A. ELLIOTT
Battle Creek

LIEUT. W. H. NILES
Marshall

CAPTAIN E. V. JOINVILLE
Detroit

LIEUT. C. L. D. McLAUGHLIN
Vermontville

CAPTAIN H. E. McLENNAN
Bellvue



MAJOR ELIJAH VAN CAMP
Athens

CAPTAIN A. H. ROSS
Battle Creek

LIEUT. W. J. BIEN
Union City

CAPTAIN J. J. HOLES
Battle Creek

CAPTAIN A. A. HOYT
Battle Creek



CAPTAIN R. V. GALLAGER
Battle Creek

CAPTAIN R. D. SLEIGHT
Battle Creek

LIEUT. J. G. GAGE
Battle Creek

LIEUT. L. H. TOWER
Battle Creek

LIEUT. THEO. KOLVOORD
Battle Creek



MAJOR G. C. HAFFORD
Albion

CAPTAIN E. A. SCHILZ
Grand Ledge

CAPTAIN H. B. KNAPP
Battle Creek

CAPTAIN W. A. GRIFFITH
Coldwater

LIEUT. S. A. STEALY
Charlotte



CAPTAIN R. C. STONE
Battle Creek

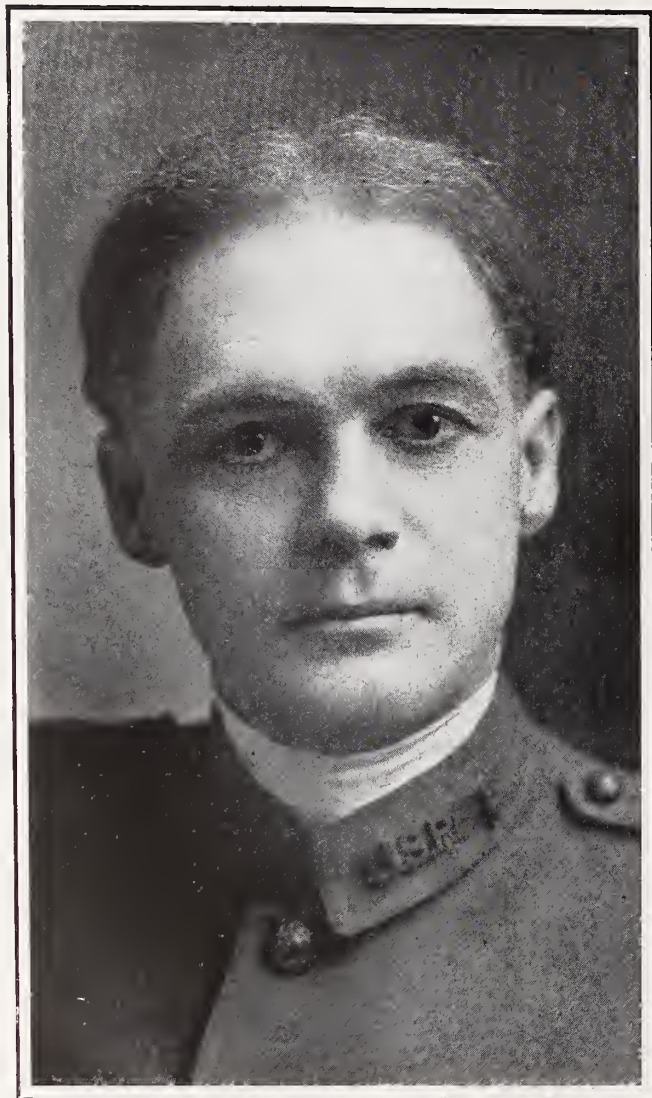
CAPTAIN CARL G. WENCKE
Battle Creek

CAPTAIN W. N. PUTMAN
Battle Creek

LIEUT. E. M. CHAUNCEY
Albion



MAJOR A. C. McCURDY
Died in Service Nov. 28, 1918
Battle Creek



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Benton Harbor



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Kalamazoo

LIEUT. L. A. KING
Baroda

CAPTAIN R. G. IRELAND
Kalamazoo

LIEUT. L. E. WESCOTT
Gobleville

LIEUT. W. R. VAUGHN
Plainwell



CAPTAIN N. D. MURPHY
Bangor

LIEUT. R. J. WALKER
Saugatuck

CAPTAIN J. H. KELSEY
Cassopolis

CAPTAIN R. U. ADAMS
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CAPTAIN J. D. STEWART
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LIEUT. M. J. CROSS
Delton

LIEUT. W. A. SINGLETON
Hickory Corners

CAPTAIN C. A. MITCHELL
Benton Harbor

CAPTAIN O. H. CLARK
Kalamazoo

CAPTAIN C. W. MERRITT
St. Joseph



LIEUT. L. J. CRUM
Kalamazoo

LIEUT. R. E. WEEKS
Augusta

MAJOR R. E. BALCH
Kalamazoo

CAPTAIN A. E. HENWOOD
Kalamazoo

CAPTAIN H. W. STUCH
Kalamazoo



LIEUT. COL. H. A. GRUBE
Grand Rapids



LIEUT. COL. R. R. SMITH
Grand Rapids



CAPTAIN W. E. WILSON
Grand Rapids

MAJOR T. D. GORDON
Grand Rapids

MAJOR ALEXANDER CAMPBELL
Grand Rapids

CAPTAIN LOUIS BARTH
Grand Rapids

CAPTAIN J. N. HOLCOMB
Grand Rapids



LIEUT. W. A. HYLAND
Grand Rapids

CAPTAIN V. H. KITSON
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CAPTAIN H. M. BLACKBURN
Grand Rapids

MAJOR J. B. WHINERY
Grand Rapids

CAPTAIN L. E. SEVEY
Grand Rapids



CAPTAIN PETER DE PREE
Grand Rapids

CAPTAIN R. T. URQUHART
Grand Rapids

CAPTAIN J. R. CORYELL
Grand Rapids

CAPTAIN M. WELLS
Grand Rapids

MAJOR W. D. LYMAN
Grand Rapids



LIEUT. C. M. FREEMAN
Ada

MAJOR B. R. CORBUS
Grand Rapids

LIEUT. J. H. MULLER
Grand Rapids

LIEUT. A. A. McNABB
Grand Rapids

MAJOR F. C. KINSEY
Grand Rapids



LIEUT. A. E. DREYER
Detroit

CAPTAIN R. C. BREECE
Ada

LIEUT. DAVID WEINGARDEN
Detroit

LIEUT. J. D. BRADFIELD
Portland

LIEUT. H. J. BEEL
Grand Rapids



LIEUT. I. S. GELLERT
Detroit

LIEUT. B. F. CORBETT
Detroit

CAPTAIN A. F. JENNINGS
Detroit

MAJOR MAX BALLIN
Detroit

MAJOR L. J. HIRSCHMAN
Detroit



CAPTAIN W. A. SCOTT
St. Johns

CAPTAIN H. W. KNAPP
Flint

LIEUT. B. R. SLEEMAN
Linden

LIEUT. F. E. REEDER
Flint

CAPTAIN L. L. WILLOUGHBY
Flint



CAPTAIN J. O. PARKER
Owosso

LIEUT. HENRY COOK
Flint

CAPTAIN J. G. R. MANWARING
Flint

CAPTAIN A. J. REYNOLDS
Flint

MAJOR W. H. WINCHESTER
Flint



MAJOR G. P. SACKRIDER
Owosso

CAPTAIN B. GOODFELLOW
Clío

CAPTAIN G. T. SOULE
Owosso

CAPTAIN W. C. REID
Goodrich

MAJOR H. L. ARNOLD
Owosso



CAPTAIN G. R. GOERING
Flint

CAPTAIN J. W. EVERS
Flint

MAJOR R. S. MORRISH
Flint

LIEUT. W. M. TAYLOR
Ovid

LIEUT. C. P. CLARK
Flint



MAJOR W. H. MARSHALL
Flint

CAPTAIN C. S. BALLARD
Flint

CAPTAIN H. E. RANDALL
Flint

LIEUT. A. T. PAULL
Flint



LIEUT. F. M. GOWDY
St. Joseph

CAPTAIN DAVID LITTLEJOHN
Bridgeman

CAPTAIN A. J. MCKENZIE
Port Huron

CAPTAIN C. D. CHAPIN
Columbiaville



LIEUT. D. W. PATTERSON
Port Huron

MAJOR GEO. WATERS
Memphis

CAPTAIN F. V. CARNEY
St. Clair

MAJOR J. C. WEBSTER
Peck

LIEUT. G. M. KESL
Port Huron



LIEUT. H. H. ANGLE
Snover

CAPTAIN ISAAC BOWDEN
Port Huron

CAPTAIN S. B. YOUNG
Caseville

CAPTAIN A. E. YALE
Pigeon

CAPTAIN W. G. WIGHT
Yale



LIEUT. W. L. MILLER
Saginaw



LIEUT. G. F. ALGER
Saginaw

CAPTAIN H. J. MEYER
Saginaw

CAPTAIN C. B. GARDNER
Alma

CAPTAIN W. C. GARVIN
Millington

CAPTAIN J. H. POWERS
Saginaw



CAPTAIN C. D. PULLEN
Mt. Pleasant

MAJOR J. D. BRUCE
Saginaw

CAPTAIN R. S. WATSON
Saginaw

MAJOR J. T. SAMPLE
Saginaw

CAPTAIN R. E. DAWSON
Blanchard



MAJOR E. P. W. RICHTER
Saginaw

LIEUT. L. B. HARRIS
Saginaw

CAPTAIN A. E. LEITCH
Saginaw

LIEUT. I. D. McCOY
Cass City

CAPTAIN F. P. BENDER
Caro



LIEUT. R. C. LYLE
Bridgeport

MAJOR W. F. ENGLISH
Saginaw

CAPTAIN A. R. MCKINNEY
Saginaw

CAPTAIN W. A. DE FOE
Detroit

LIEUT. M. C. HUBBARD
Vestaburg



LIEUT. C. P. DOYLE
Frankfort

CAPTAIN G. M. JOHNSON
Traverse City

CAPTAIN G. A. HOLLIDAY
Traverse City

CAPTAIN HARLEN MacMULLEN
Manistee

CAPTAIN L. N. YERKES
Elk Rapids



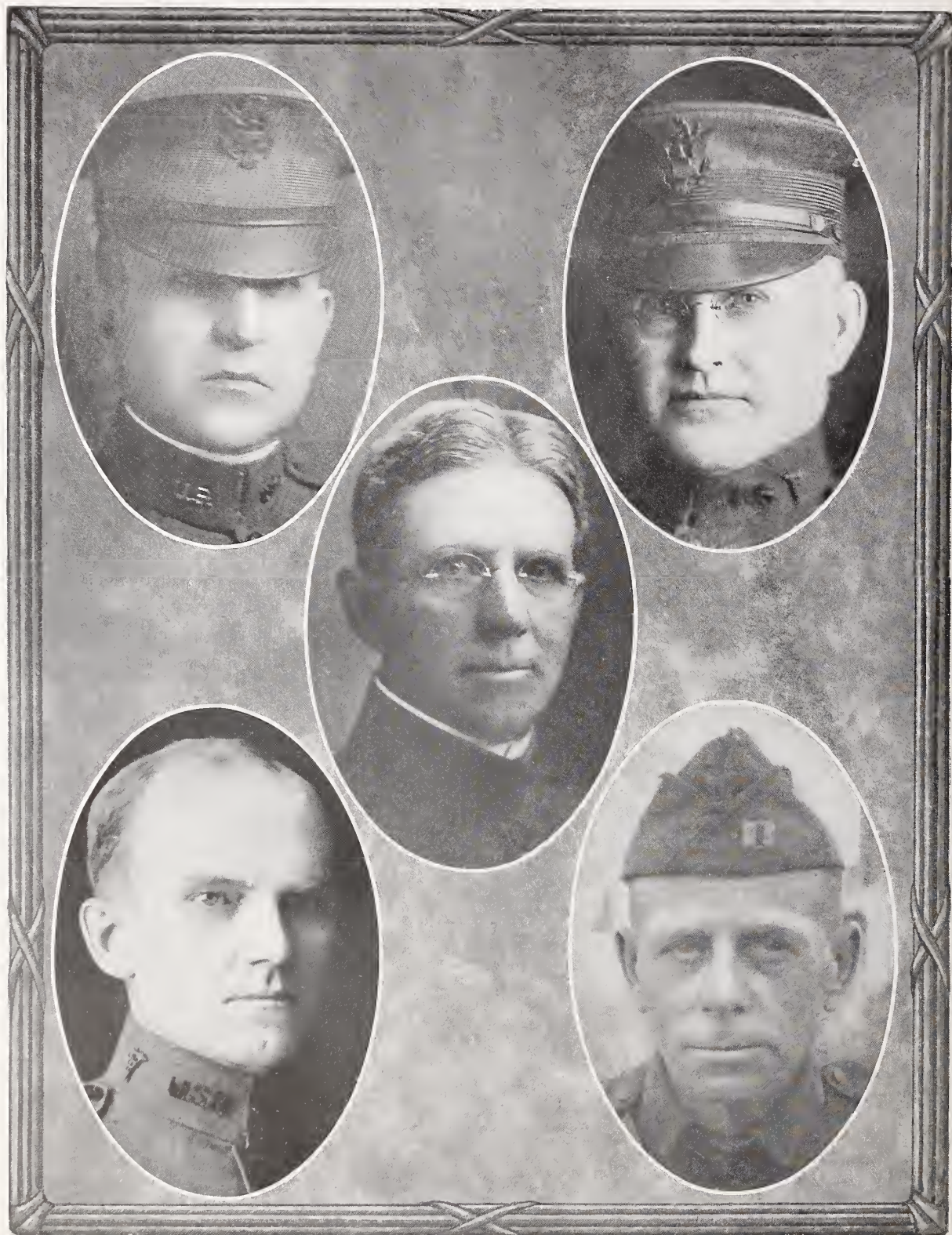
CAPTAIN R. J. BEEBY
West Branch

MAJOR C. V. CRANE
East Tawas

CAPTAIN J. F. GRUBER
Mesick

MAJOR R. C. PERKINS
Bay City

LIEUT. H. P. LAWRENCE
Bay City



CAPTAIN W. D. MUELLER
Traverse City

CAPTAIN E. L. THIRLBY
Traverse City

CAPTAIN NELSON ABBOTT
Marshall

CAPTAIN O. L. RICKER
Cadillac

CAPTAIN J. F. DOUDNA
Lake City



CAPTAIN R. E. SCRAFFORD
Bay City

LIEUT. E. S. HUCKINS
Bay City

CAPTAIN E. C. GOODWIN
Bay City

MAJOR F. H. RANDALL
Bay City

CAPTAIN F. S. BAIRD
Bay City



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Bay City

CAPTAIN J. H. McEWAN
Bay City

LIEUT. WM. KERR
Bay City

LIEUT. V. H. DUMOND
Bay City

CAPTAIN M. SLATTERY
Bay City



LIEUT. A. L. ARNOLD
Owosso

CAPTAIN R. J. E. ODEN
Cadillac

CAPTAIN C. J. LARSON
Negaunee

MAJOR J. J. HAVILAND
Owosso

CAPTAIN M. J. SCHWANZ
Detroit



CAPTAIN V. S. LAURIN
Muskegon

LIEUT. E. S. THORNTON
Muskegon

CAPTAIN L. E. KELSEY
Lakeview

LIEUT. G. F. LAMB
Pentwater

LIEUT. CLINTON DAY
Hart



LIEUT. B. R. EASTMAN
Muskegon

LIEUT. GORDON YEO
Big Rapids

CAPTAIN A. S. BARR
Greenville

CAPTAIN C. F. SMITH
Muskegon

LIEUT. MARCO HANSEN
Trufant



LIEUT. N. W. MILLER
Howard City

MAJOR A. J. BOWER
Greenville

LIEUT. M. E. DANFORTH
Stanton

CAPTAIN C. M. COLIGNON
Muskegon

LIEUT. F. N. MARFORD
Muskegon



CAPTAIN A. E. LEMON
Sault Ste. Marie

CAPTAIN J. D. McKINNON
Calumet

CAPTAIN C. R. ELWOOD
Menominee

MAJOR R. B. HARKNESS
Houghton

CAPTAIN F. F. MARSHALL
Pequanning



CAPTAIN R. C. MAIN
Marquette

CAPTAIN I. SICOTTE
Michigamme

LIEUT. IRA ABRAHAMSON
Neganuee

LIEUT. F. L. YOUNGQUIST
Marquette

MAJOR P. D. MacNAUGHTON
Calumet



MAJOR W. W. ARSCOTT
Rogers City

MAJOR C. M. WILLIAMS
Alpena

LIEUT. C. D. COLLINS
Ironwood

LIEUT. B. H. VAN LEUVEN
Petoskey

CAPTAIN A. M. WILKINSON
Charlevoix



LIEUT. F. C. BANDY
Newberry

CAPTAIN J. L. CONOVER
Rapid River

LIEUT. R. D. SCOTT
Rudyard

MAJOR N. S. MacDONALD
Houghton

MAJOR R. C. WINSLOW
Sault Ste. Marie



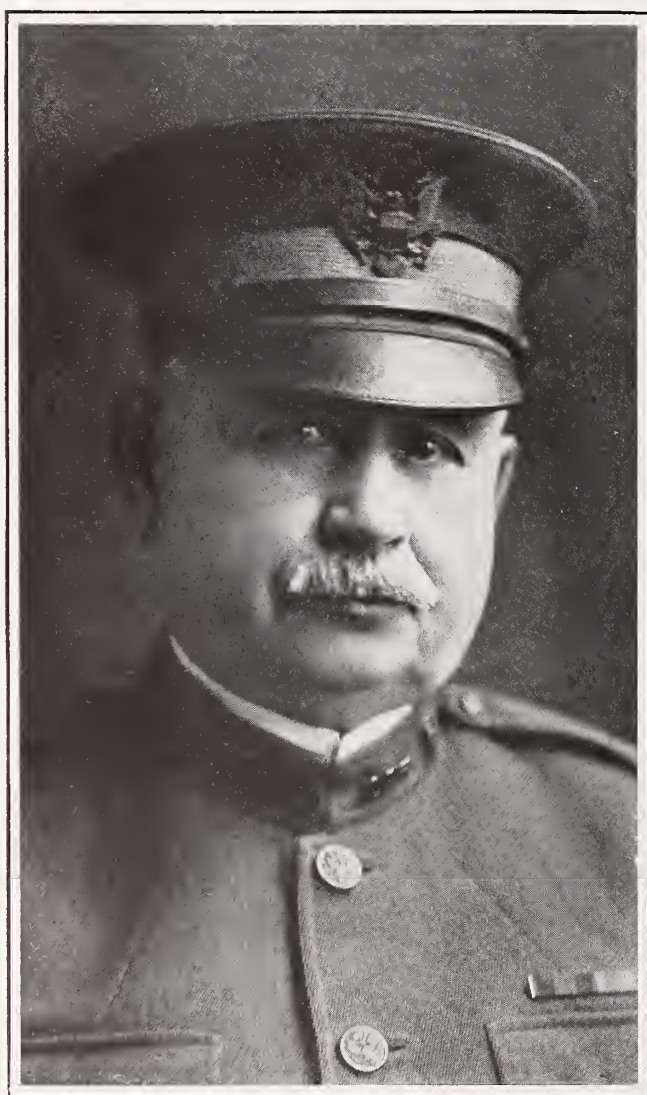
CAPTAIN A. R. TUCKER
Mohawk

CAPTAIN E. B. STEBBINS
Ironwood

CAPTAIN H. T. CARRIEL
Marquette

MAJOR S. E. CRUSE
Iron Mountain

LIEUT. I. V. YALE
Sault Ste. Marie



COL. VICTOR C. VAUGHAN
Ann Arbor



CAPTAIN H. W. LANGDON
Monroe

LIEUT. H. L. MECK
Petersburg

CAPTAIN A. H. PEARSON
Ann Arbor

CAPTAIN W. F. ACKER
Monroe

C. T. SOUTHWORTH
Monroe



LIEUT. F. C. THIEDE
Monroe

CAPTAIN L. J. STAFFORD
Adrian

CAPTAIN E. K. HERDMAN
Ann Arbor

CAPTAIN A. W. CHASE
Adrian

MAJOR J. F. BREakey
Ann Arbor



CAPTAIN E. T. MORDEN
Adrian

LIEUT. C. A. VAN DUSEN
Blissfield

MAJOR U. J. WILE
Ann Arbor

CAPTAIN A. B. HEWS
Adrian

CAPTAIN CONRAD GEORG
Ann Arbor



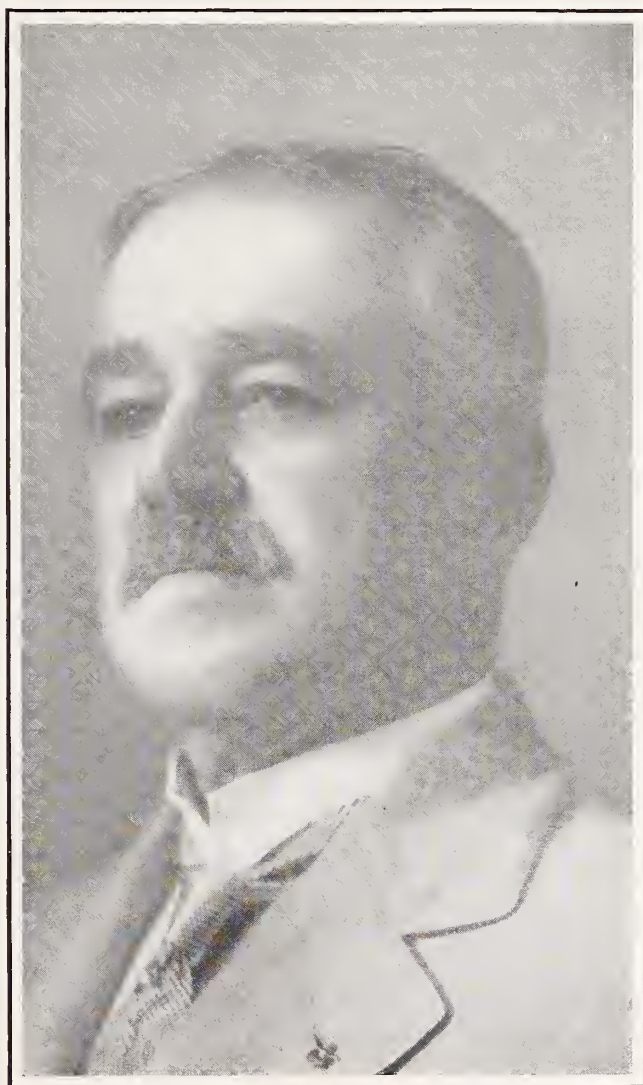
CAPTAIN F. N. SMITH
Grand Rapids

CAPTAIN L. H. CHAMBERLAIN
Grand Rapids

CAPTAIN F. L. MORSE
Lake Odessa

MAJOR G. M. CLAFLIN
Deerfield

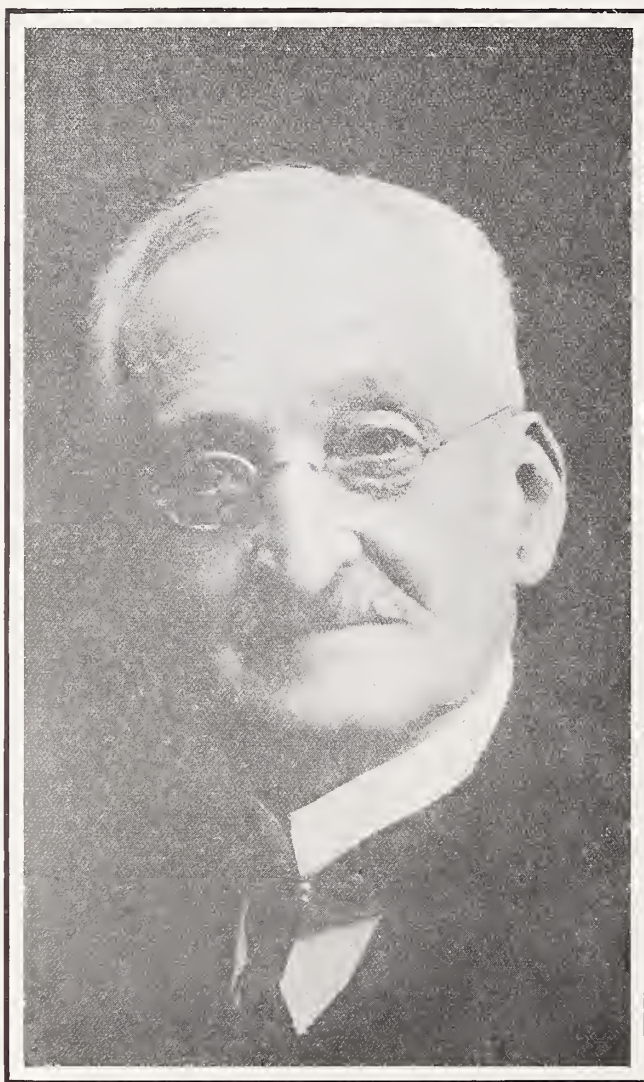
MAJOR M. W. CLIFT
Flint



DR. A. E. BULSON

Past President 1903

Jackson



DR. DAVID INGLIS

Past President 1906

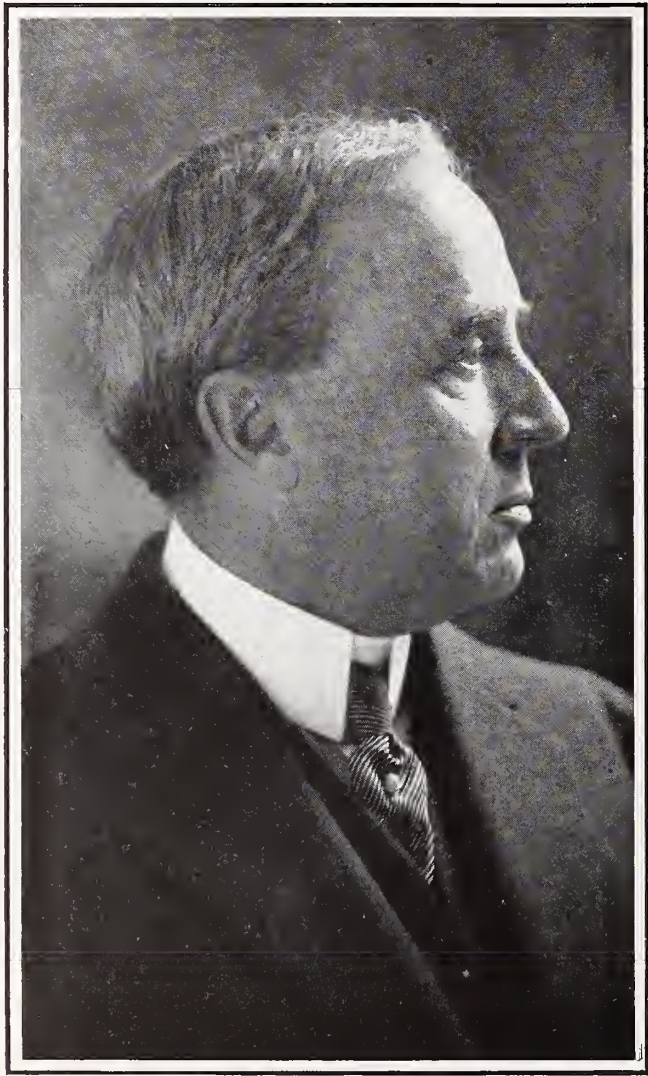
Detroit



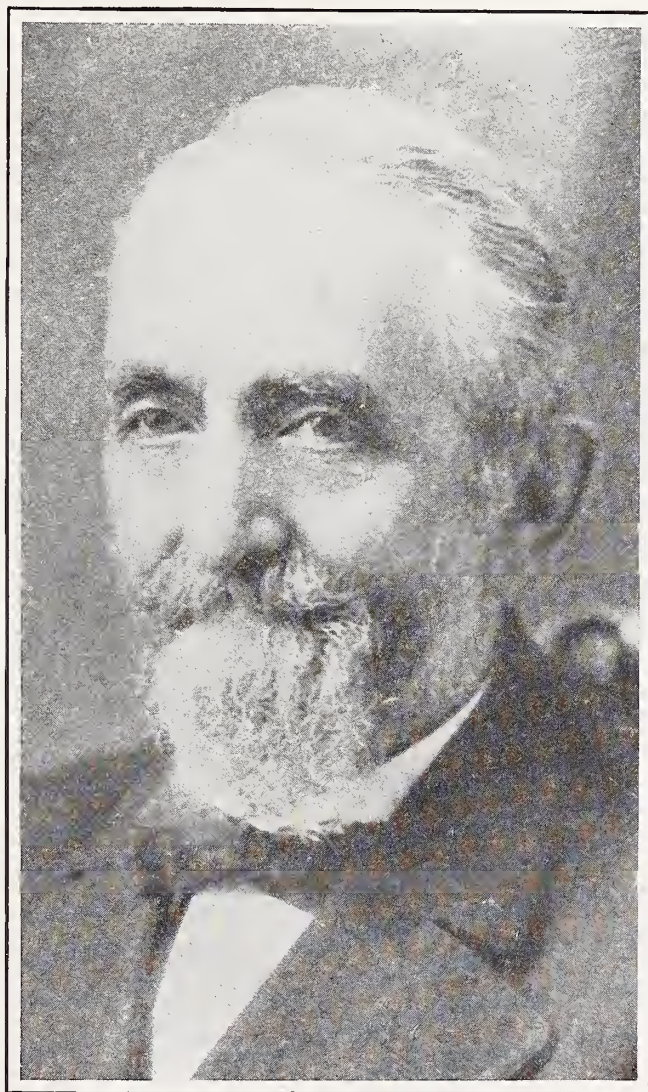
DR. C. B. STOCKWELL

Past President 1907

Port Huron



DR. HERMAN OSTRANDER
Past President 1908
Kalamazoo



DR. A. I. LAWBAUGH

Past President 1909

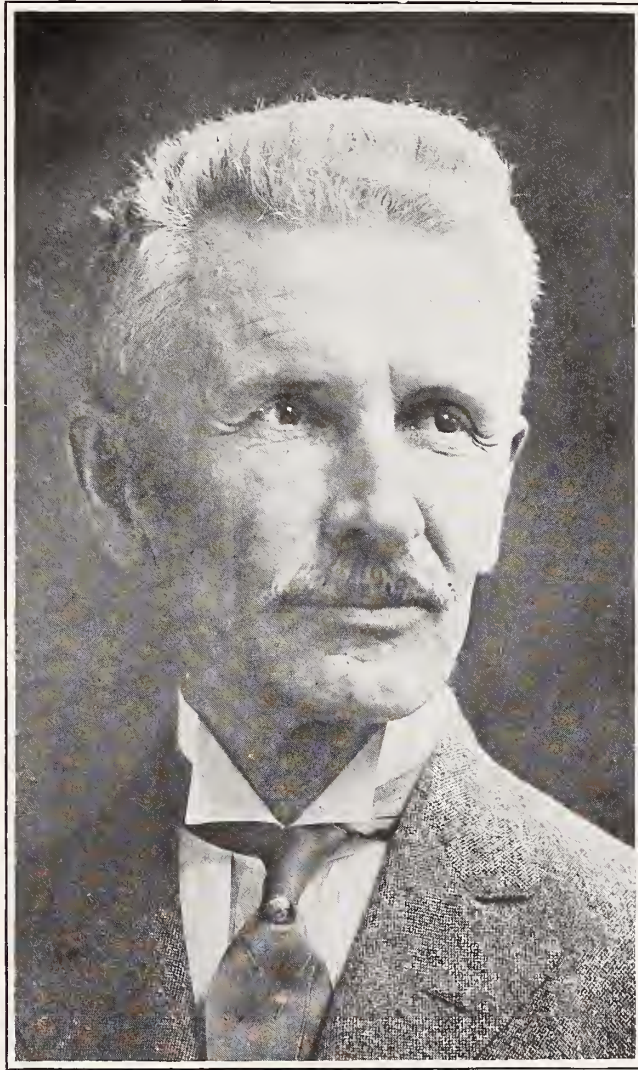
Calumet



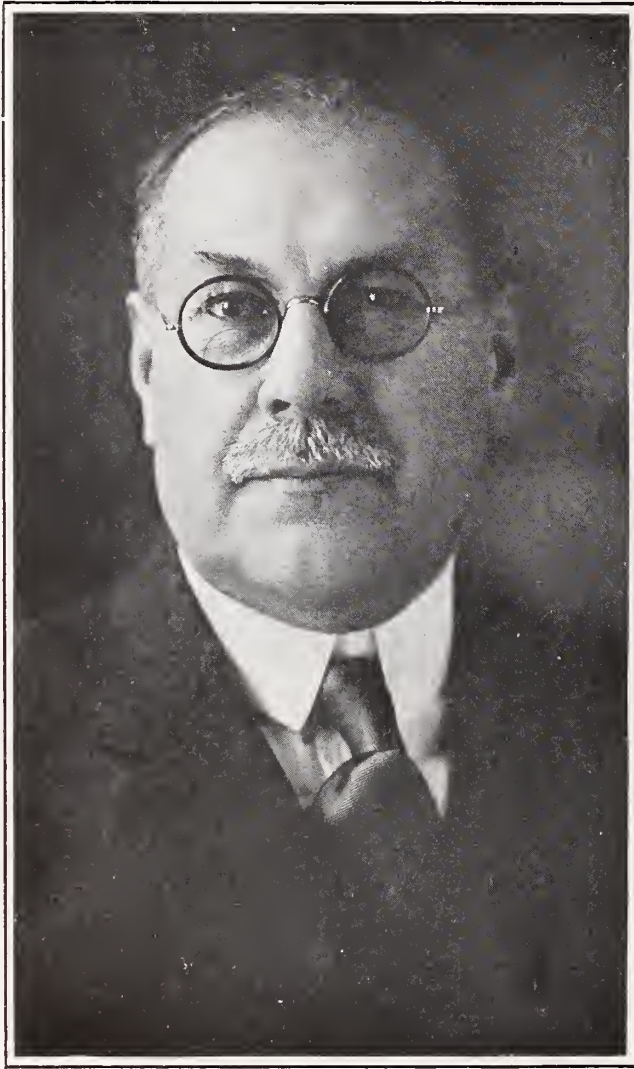
DR. J. H. CARSTENS

Past President 1910

Detroit



DR. C. B. BURR
Past President 1911
Flint



DR. W. H. SAWYER

Past President 1913

Hillsdale



MAJOR REUBEN PETERSON

Past President 1915

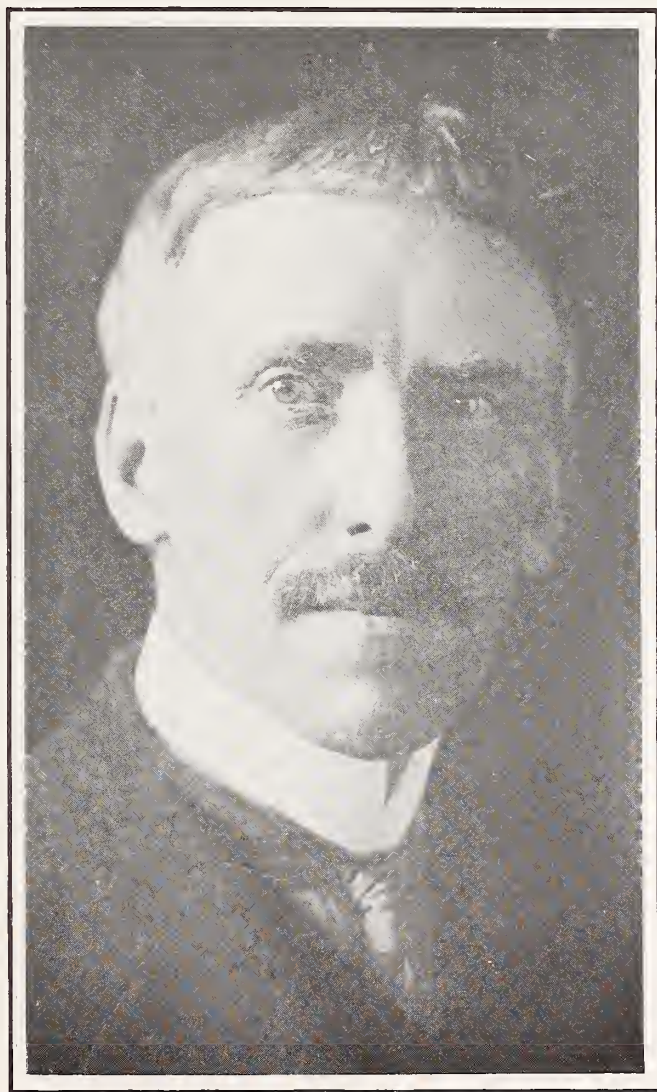
Ann Arbor



DR. A. W. HORNBOGEN

Past President 1916

Marquette



DR. A. P. BIDDLE
Past President 1917
Detroit



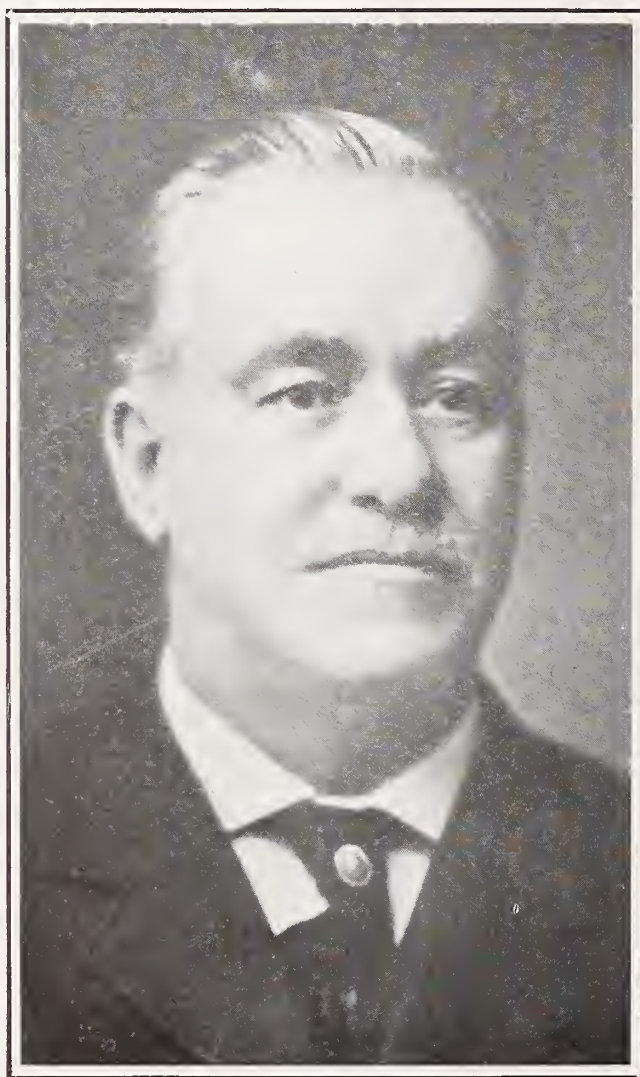
DR. ARTHUR M. HUME

President

Owosso



MAJOR F. C. WARNSHUIS
Secretary-Editor
Grand Rapids



DR. D. EMMETT WELSH

Past President 1912

Treasurer

Secretary-Editor pro tem

Grand Rapids



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Chairman of the Council
Councilor Eleventh District
Big Rapids



DR. W. J. KAY
Chairman pro tem of the Council
Councilor Seventh District
Lapeer



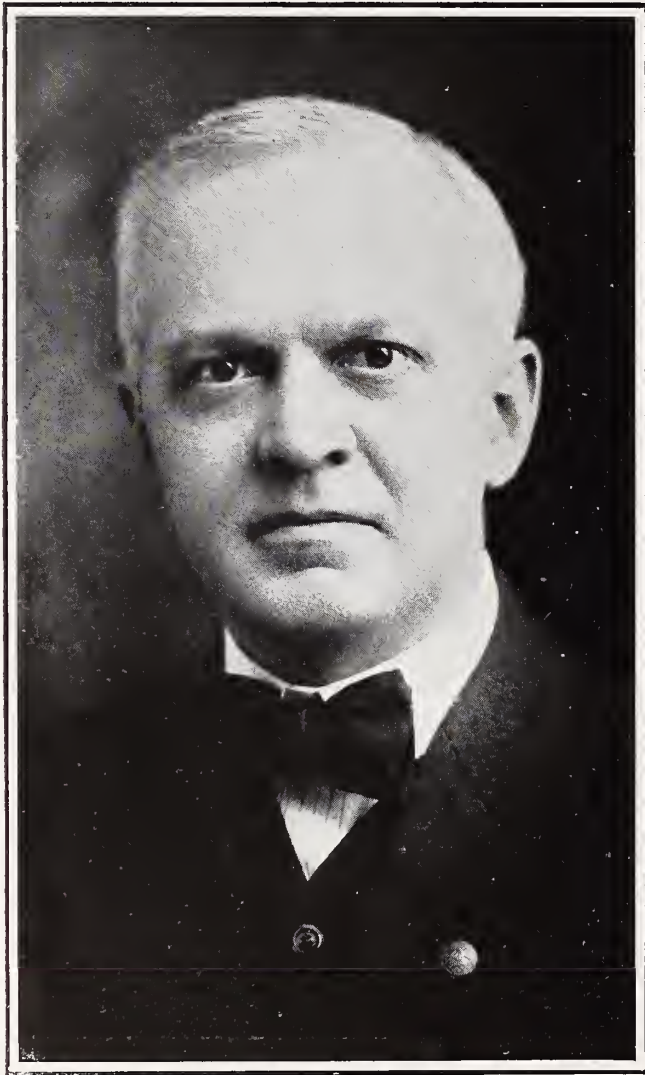
DR. G. L. KIEFER
Councilor First District
Detroit



DR. L. W. TOLES
Councilor Second District
Lansing



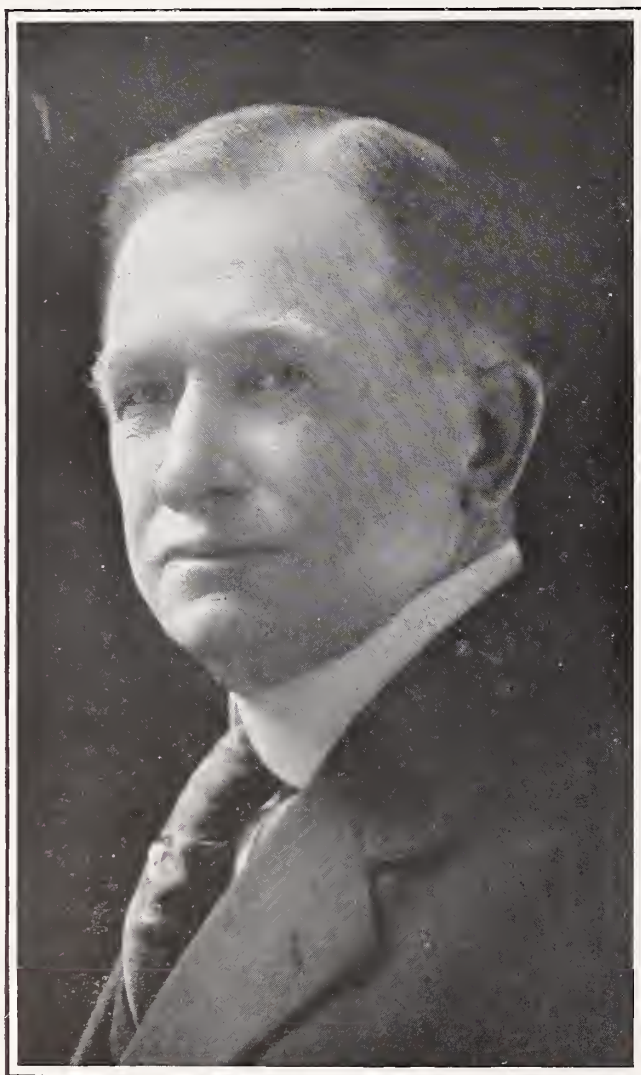
DR. S. K. CHURCH
Councilor Third District
Marshall



DR. J. B. JACKSON
Councilor Fourth District
Kalamazoo



LIEUT. W. J. DuBOIS
Councilor Fifth District
Grand Rapids



DR. W. G. BIRD
Councilor Sixth District
Flint



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Councilor Eighth District
Mayville



DR. F. HOLDSWORTH
Councilor Ninth District
Traverse City



DR. J. M. McCLURG
Councilor Tenth District
Bay City



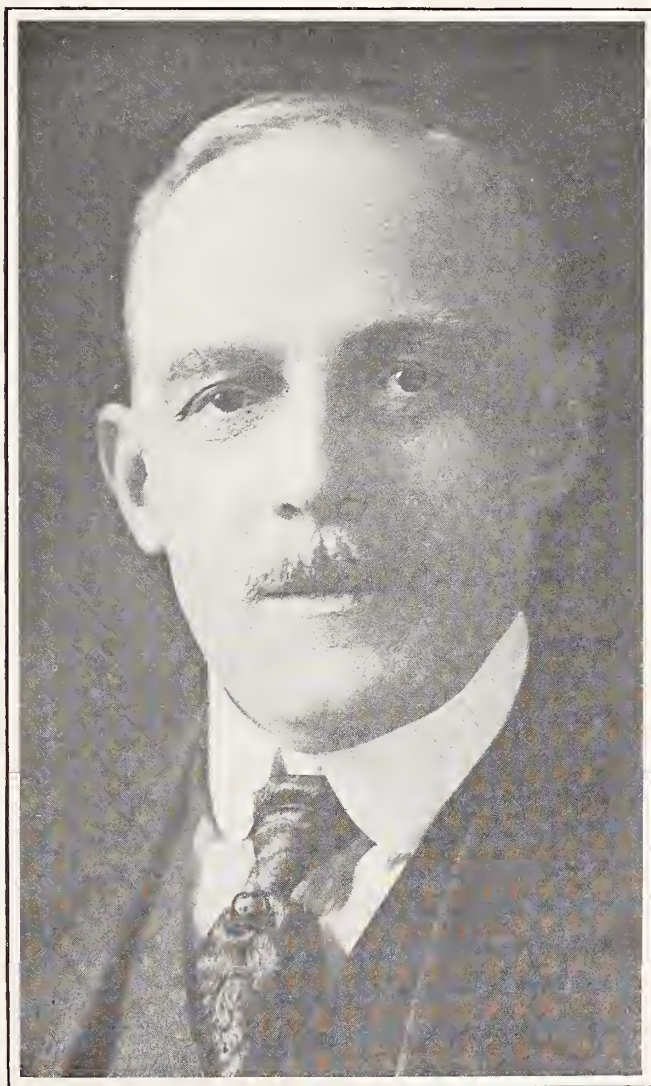
DR. R. S. BUCKLAND
Councilor Twelfth District
Baraga



DR. F. C. WITTER
Councilor Thirteenth District
Petoskey



DR. C. T. SOUTHWORTH
Councilor Fourteenth District
Monroe



DR. FRANK B. TIBBALS
Chairman Medico-Legal Committee
Detroit

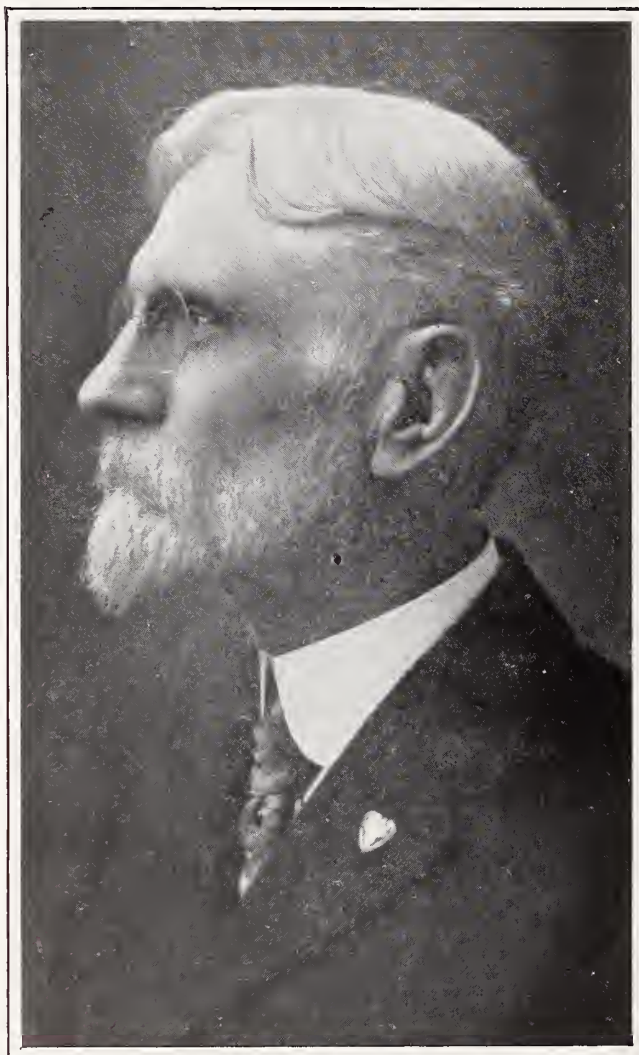


DR. G. L. Le FEVRE

President State Board of Registration in Medicine
Muskegon



DR. B. D. HARISON
Secretary State Board of Registration in Medicine
Detroit



DR. ALBERTUS NYLAND
State Board of Registration in Medicine
Grand Rapids



DR. G. L. CONNOR
State Board of Registration in Medicine
Detroit



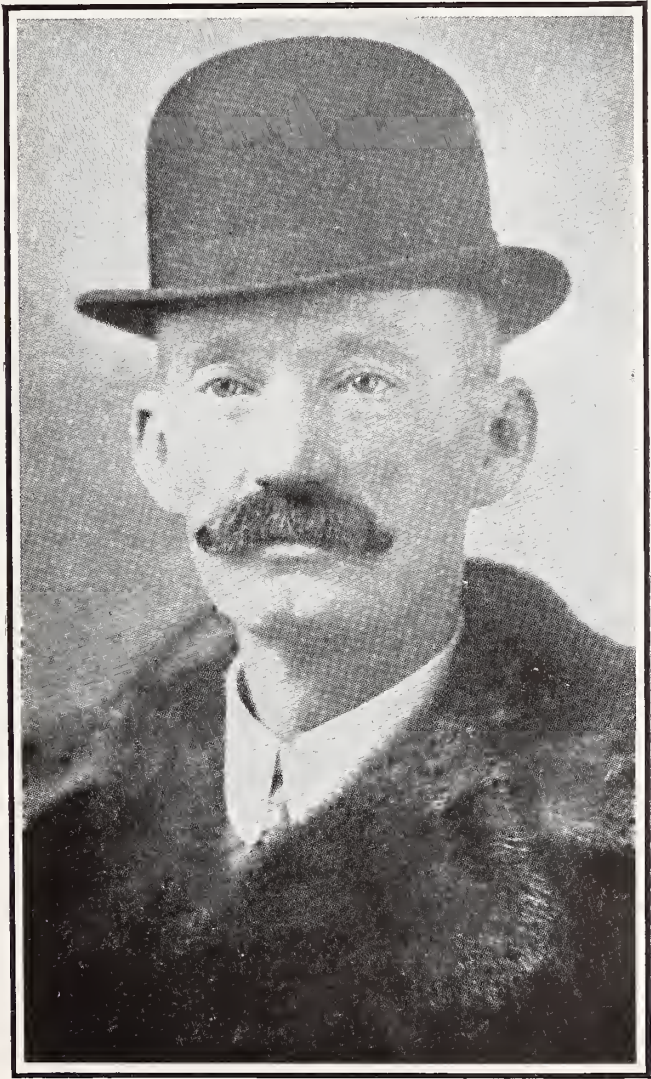
DR. W. S. SHIPP
State Board of Registration in Medicine
Battle Creek



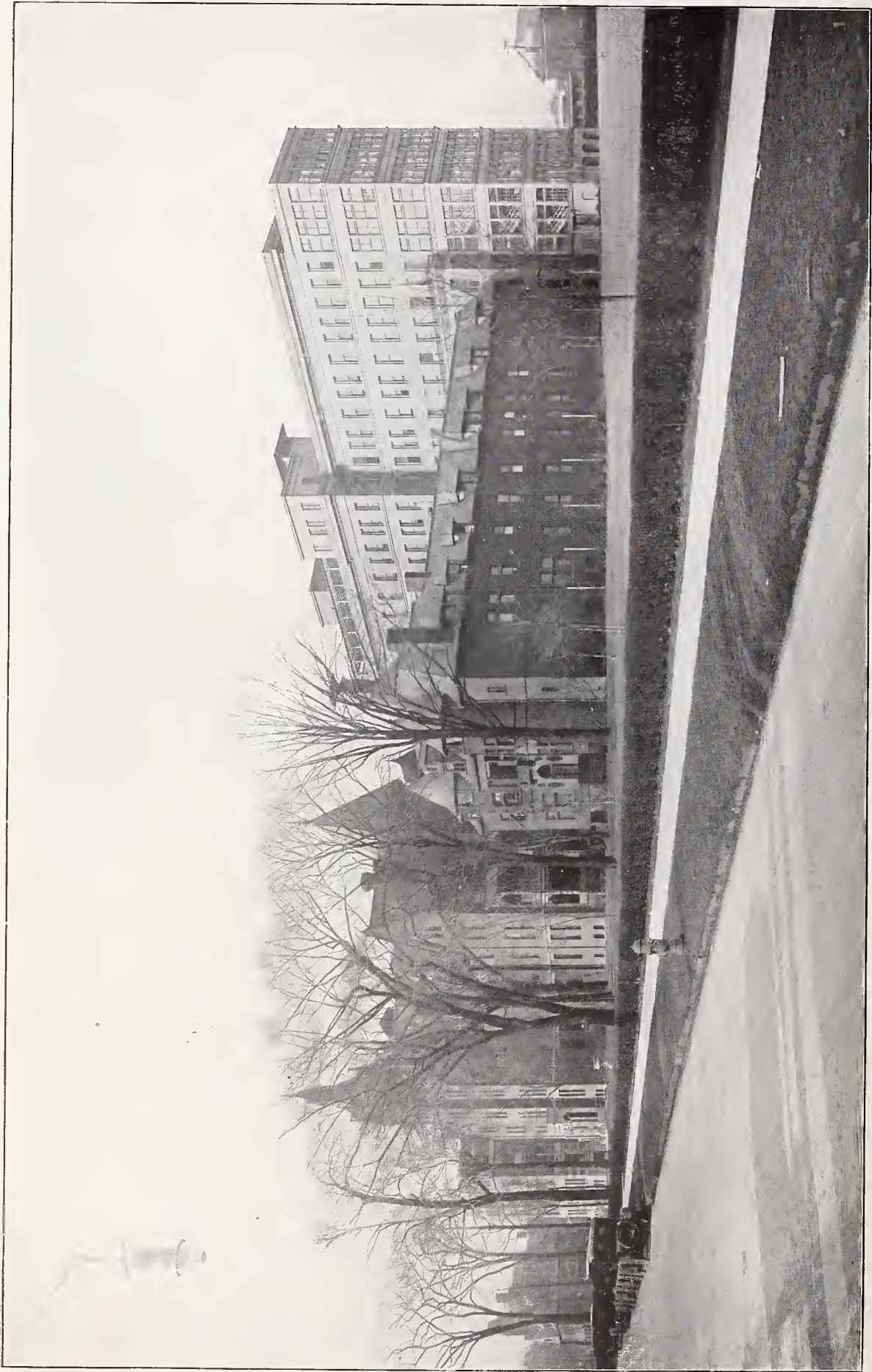
LIEUT. NELSON McLAUGHLIN
State Board of Registration in Medicine
Lake Odessa



DR. E. C. KINSMAN
State Board of Registration in Medicine
Saginaw



DR. D. A. CAMERON
State Board of Registration in Medicine
Alpena



HARPER HOSPITAL, DETROIT.

HARPER HOSPITAL, DETROIT

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Dr. R. W. McGeoch, Acting Asst. Superintendent.	Miss Grace Clow, R. N., Night Supervisor.
Miss Emily A. McLaughlin, R. N., Supervisor of Nurses and Principal of Training School.	Miss Julia Dwyer, R. N., Assistant Night Supervisor.
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Miss Lulu B. Durkee, R. N., Assistant Superintendent.	Miss Gladys Smith, R. N., Assistant Director.
Miss Mary E. Gillis, R. N., Assistant Superintendent.	Miss Margaret McClure, R. N., Assistant Director.
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Miss Flora McGregor, R. N., Instructor in Operating Room Technic.	Miss Ruth Bennett, R. N., Assistant Director.
Miss Nora Robinson, R. N., Supervisor of Operating Room.	Mrs. Jean Elsa Poole, R. N., Supervisor of Out Patient Department.
	Miss Grace Gillis, R. N., Occupational Therapy.

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Miss Mary Porch, R. N., Div. 2, Women's Surgical.	Miss Jean Clarke, R. N., Div. 8, Medical.
Miss Ellen Gillard, R. N., Div. 3, Men's Surgical.	Miss Ada Hill, R. N., Div. 9, Men's Surgical.
Miss Mary Kennedy, R. N., Div. 5, Private Floor.	Mrs. Helen R. Helland, Dietetics.
Miss Lucy Petschke, R. N., Div. 6, Obstetrical.	Mrs. R. B. Wright, Matron.

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Glenn A. Bulson	Henry R. Carstens	Preston M. Hickey
Fred G. Buesser	C. Bruce Lockwood	John N. Bell
H. P. Cushman	W. D. Mayer	Stewart Hamilton

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Emily A. McLaughlin	Ruth M. Knapp	Alice Gilmore
Laura Boeke	Charlotte Light	Christine Keyes
Mabel Booth	Katherine Lisa	Grace Knapp
Maude Carson	Mary Yonker	Nellie Malone
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Alice M. Creagh	Myrtle Marklem	Edith L. Vincent
Tresa I. Curley	Melvina M. Malhoit	Esther R. Henderson
Myrtle A. Dierking	Mary A. MacKay	Laverne Gearhart
Mary DuPaul	Minnie Morris	Grace Treat
Johanna Erickson	Katherine Pellow	G. Burt
Sara Finlayson	*Mable Ragan	Ida B. Ault
Grace D. Fitch	Esther Rubenstein	Marion A. Chapman
Elizabeth C. Hallock	Alice Solon	Alta I. Griffin
Matilda Harris	Bessie Spanner	Arline E. Hall
Allie B. Hartt	Margaret A. Squire	Marion Hance
Katherine Hendry	Bertha Woodburn	Clara M. Winkler
Ethel Henry	Nina Young	Mary J. Dorey
Laura J. Henry	Petsy L. Harris	Isabel C. Harding
Ada Hill	Alice Arkell	Rosemary Sweet

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Mary J. Hooley
Lulu E. Howden
Frances D. Jordan
Olga Kellgrew
Agnes A. Kennedy
Mary Kennedy

Minnie Black
Eva Blackwell
Katherine E. Burns
Evelyn A. Cooper
Florence N. Crane
Anna A. Dwyer

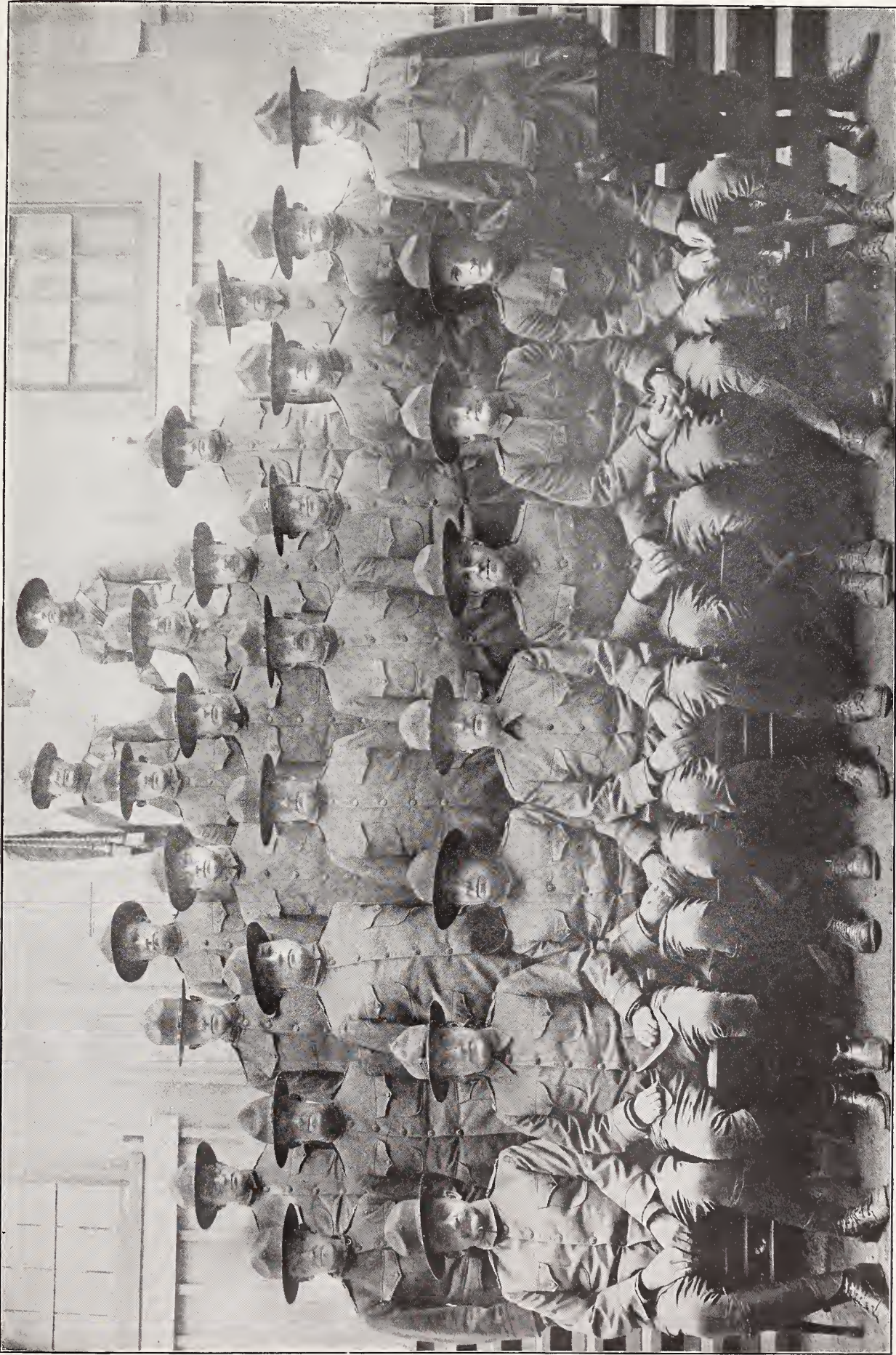
Elsie G. Slater
A. Ruth Lawrence
Sadie Curtis
Ruby M. Hill
Margaret E. Rogers
*Died in Service

NURSES IN TRAINING.

Tena Bailey
Mildred Compton
Clara H. Cook
Donalda McKiarmid
Adah Nichols
Alverna Pratt
Josephine Phoenix
Nyle Patterson
Mayme Tansey
Violet Wood-Roberts
Elizabeth Vass
Edna Van Dyke
Ada B. Wasnick
Grace E. White
Mildred Buchanan
Julia E. Currie
Harriet Cornelius
Gladys Dungey
Rose Fisher
Maude Gordon
Sara Goldstein
Selma Hanson
Ruth M. Harris
Mable Hamilton
Lois Johnson
Mary F. Johnson
Nora O'Gorman
Odette McKenzie
Melva Penhale
Matilda Arneson
Charlotte Baker
Jacqueline Blood
Marjorie Chapel
Hilda Darling
Aldia Egler
Doris Eveleth
Nettie B. Foe
Florence Hall
Florence Kitt
Katherine Kitt
Katherine McDonald
Grace Owen
Grace Seehaver
Martha Stewart
Gladys Smith
Annabelle St. Louis
Eunice Wildasin
Mrs. Mable Wagner
Mable Ashton
Bernice Becwith
Mary Bratt
Esther Cochran
Ruby Gray
Esther Glass
Nina Jadwin
Dorothy Himelfarb

April Hill
Thelma Johnson
Stella Leeson
Alma Lindsay
Helen Laur
Elsie McCullough
Jessie McPherson
Cecelia McCabe
Laura Ockenfels
Cecelia Nolan
Jane Peterson
Gertrude Stevenson
Gertrude Stokes
Maude Banning
Jessie Cameron
Mary D'Clute
Ethel Evans
Mabel Husband
Isabelle Knight
Alice Massey
Hazel Miller
Margery Mulheron
Guinevere Purcell
Leola Richardson
Dora Weld
Kirtha Carmichael
Isabel Cochrane
Anna Dingman
Helen Gallagher
Mildred Hoelzer
Beryl Hunt
Elsbeth Killmaster
Margaret Kirkpatrick
Esther Lawson
Lydia Langlois
Lillian Leeson
Anna McRitchie
Leila Morrison
Jean McLardy
Doris Price
Florence Sillard
Mildred Soper
Mrs. Irene Tarlton
Edna Walker
Lillian Bentley
Mildred Harris
Mildred Morris
Irene Oakes
Ruth Piggott
Mable Webster
Emma Wubben
Cecil Alford
Pauline Armstrong
Verna Berlew
Hazel Bromley
Alice Burtless

Agnes Boughton
Jean Cox
Mabel Carlson
Lois Cone
Rose Connolly
Flora Christofferson
Florence Dederling
Erma Doak
Genevieve Fitzgerald
Edith Fulton
Christina Graham
Elena Groff
Julia Haskins
Freda Hantel
Jane Howard
Clara Juengel
Marie Juttner
Blance Kelly
Gladys LaRue
Gertrude Linsell
Elizabeth Moorhouse
Myrtle Munce
Annie McAlpine
Nina McWebb
Anna Olson
Irene Phillips
Pansy Reed
Ellen Swanson
Lula Schweitzer
Esther Trollman
Cathrine Wonn
Winnie Wilton
Mable Wilcox
Mary Widdifield
Eva White
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Corrine Dove
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Mabel Fraser
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Jessie Kennedy
Grace McKenzie
Helen McDonald
Mary McVicar
Hazel Reeves
Myrtle Redmond
Margaret Smith
Eva Vanest
Anna Walton
Anna Weaver

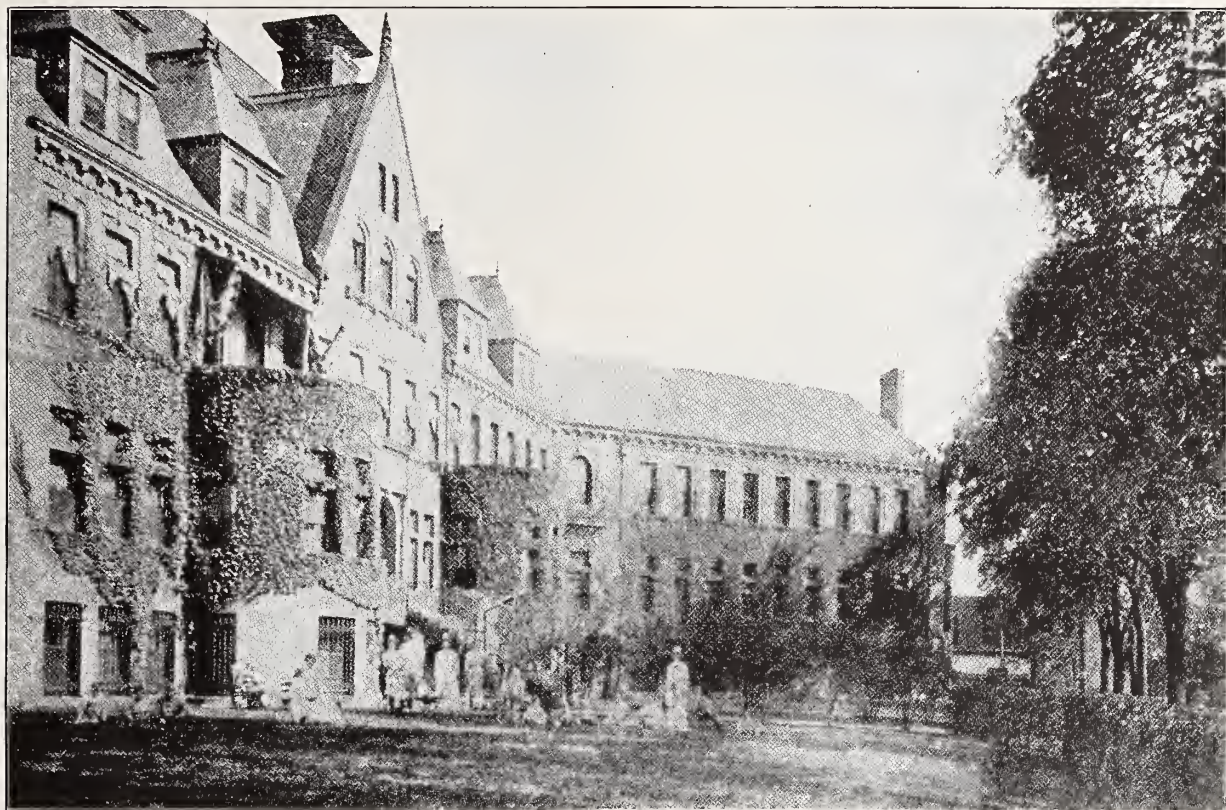


OFFICERS OF BASE HOSPITAL NO. 17.



GROUP OF NURSES OF BASE HOSPITAL NO. 17.

CHILDREN'S FREE HOSPITAL, DETROIT



OFFICERS

Mrs. Betsy L. Harris, R. N., Superintendent.	Miss Mabel R. Fountaine, R. N., Registrar.
Miss Margaret A. Rogers, R. N., Act. Superintendent.	Miss Abbie B. Bayne, Secretary.
Miss Lillie C. Knudsen, Dietitian and Matron.	Miss E. H. Gage, R. N., Supervisor.
Miss E. McLellan, Night Superintendent.	Mrs. M. Laurie, R. N., Supervisor.
Miss E. Rubinstein, Pharmacist.	Miss Myrtle Tallman, R. N., Supervisor.
Miss Louise Weber, B. S., Pathologist.	Miss Marie Anderson, R. N., Supervisor.
Miss M. H. Meikle, R.N., Instructor in Train. School.	

NURSES IN SERVICE.

Mrs. Betsy L. Harris, R. N.	Frances Deyell, R. N.	Signe A. Schwartz, R. N.
Annie Virtue, R. N.	Amy E. Keel, R. N.	Mabel Wagner, R. N.
Minnie Lester, R. N.		

NURSES IN TRAINING.

Minna Steinert	Phyllis Laraudeau	Ruth Mattern
Lena M. Young	Viola Benson	Marie Vittone
Florence Swithers	Bertha Grage	Frankie Hooper
Maud Hippler	Arline Priest	Ottília Brechtelbauer
Jane Butterworth	Gladys Taylor	Irene Paulson
Mildred Priest	Daisy Buell	Ellen Schalin
Vera Hunt	Agnes Smith	Martha Franklin
Ednah Crisp	Ethel Gibbing	Minnie Johnson
Amelia Christiansen	Kathleen Bray	Adeline Kaufman
Annie Eames	Eva Krathwohl	Elizabeth Certain
Mildred Jull	Ruth Newbold	



ST. MARY'S HOSPITAL, DETROIT.

ST. MARY'S HOSPITAL, DEROIT

Sister Camilla, General Superintendent.

Dr. Eugene Smith, Sr., President Medical Board.

Sister Florence, Superintendent of Nurses.

Dr. Walter J. Wilson, Jr., Secretary.

MEDICAL MEN IN SERVICE.

Lt. Col. T. A. McGraw, Jr.	Capt. R. A. C. Wollenberg	Lieut. B. B. Brunke	Lieut. R. A. Perkins
Major Frank B. Walker	Capt. Robert Beattie	Lieut. A. L. Gignac	Lieut. E. J. Agnelly
Capt. H. A. Luce	Capt. T. H. Smith	Lieut. N. J. Jessup	Lieut. W. Y. Kennedy
Capt. W. J. Stapleton	Lieut. L. vanBeceleare	Lieut. H. A. Reye	

NURSES IN SERVICE.

Miss Quirk	Miss Meyer	Miss Margaret Doyle	Miss Wehnes
Miss Desk	Miss St-Amour	Miss Dimeo	Miss Cheeseman
Miss Weyhing	Miss Mary McItee	Miss Savyer	Miss Kennedy
Miss Florence Martin	Mrs. Tracy	Miss Ricca	Miss McAuliffe
Miss Gelineau	Mrs. Balfe	Miss Therese Martin	Miss Halford
Miss Killorn	Miss McBride	Miss Healy	Miss King
Miss McGlynn	Miss Sheehy	Miss Taylor	Miss Hughes
Miss Moran	Miss Queenan	Miss McCarron	Miss McEveney
Miss Reidal	Miss Dilworth	Miss Nolan	Miss Rivard
Miss Serrill	Miss Burrows	Miss Fitzgerald	*Miss Dupuis
Miss Grogan			*Died in service.

DETROIT EYE, EAR, NOSE AND THROAT HOSPITAL.



MEMBERS OF STAFF IN SERVICE

Dr. Burt R. Shurly
Dr. R. A. Shankwiler

Dr. C. E. Weaver
Evelyn Cooper

Dr. Wm. A. Defnet
Minnie V. Black

PROVIDENCE HOSPITAL, DETROIT



EXECUTIVE COMMITTEE

Dr. R. E. Mercer, President.
 Dr. D. O'Donnell, Vice President.
 Dr. James E. Davis.

Dr. Walter E. Welz.
 Dr. George Chene, Secretary.

OFFICERS

Sister Mary Olympia, Superintendent of Hospital.
 Sister Louise, R. N., Superintendent of Nurses.
 Sister Rose Marie, R. N., Supt. of Operating Rooms.
 Sister Martha, R. N., Supt. of Maternity Department.
 Sister Regis, R. N., Supt. of Men's Department.
 Sister Caillista, R. N., Night Supervisor.
 Sister Felicita, Supt. of Children's Department.
 Sister Helena, Registered Pharmacist.

Sister Marie, Dietitian.
 Leona Peltier, R. N., Instructor in Maternity Rooms.
 Emma Peltier, R. N., Supt. in Medical and Surgical Department for Women.
 Rosella Mayes, R. N., Instructor, Practical Demonstrator and Anesthetist.
 Florence Martin, R. N., Superintendent in Medical and Surgical Department for Women.

NURSES IN SERVICE

Ruth Richardson, R. N.
 Charlotte Conrad, R. N.
 Rosalie Gay, R. N.
 Arminta Garlitz, R. N.
 Louise Owens, R. N.
 Elizabeth Freedman, R. N.
 Katherine Jones, R. N.
 Christina Wiblishouser, R. N.

Anna Kaiser, R. N.
 Isabelle Napper, R. N.
 Helen DuPoydt, R. N.
 Gertrude Healy, R. N.
 Catherine Miltner, R. N.
 Hilda Waterstrat, R. N.
 Florence Kimeski, R. N.
 Loretta MacDonell, R. N.

Margaret McNeil, R. N.
 Abbie Finnerty, R. N.
 Vera Feenan, R. N.
 Julia Eisner, R. N.
 Grace Koons, R. N.
 Elizabeth Becker, R. N.
 Ruth Davis Leaf, R. N.
 Sylvia Martin, R. N.

NURSES IN TRAINING.

Kathleen Gorman
 Alice Kelly
 Sara Henderson
 Ruth Ford
 Gertrude Healy
 Mary Collins
 Ester Murray
 Winifred Marriott
 Eva Gordan
 Blossom Horton
 Lillian Russell
 Ruby Blackburn
 Leonora Emanuele
 Rosina Elstner
 Lucilla Curran
 Loretta O'Heare
 Agnes Bibby
 Nellie O'Neil
 Lida Coombs
 Ella Christ

Anna Faubert
 Etna Knight
 Lucilla Roberts
 Rose Belanger
 Laura Norcross
 Clara McGinley
 Marguerite Sweeney
 Agnes Brick
 Sara Carrigan
 Helen Bradley
 Barbara Kolmesh
 Christine Wuepper
 Mary Moher
 Jane Farwell
 Emily St. Denis
 Helen Yaggle
 Inez Easton
 Elsie Siebert
 Loretta Foret
 Jessie Scharf

Jessie McIntyre
 Kathleen Sheehan
 Josephine Hoppe
 Salome Polkinghorn
 Alma Rider
 Dalphine Burgess
 Mennetta Nichols
 Francis Shanley
 Gladys Howard
 Antonette Grzybowski
 Edith Donnelly
 Louise VanPoppelen
 Effigene Leland
 Hilda Shea
 Lillian Arnold
 Mary Valle
 Florence O'Gorman
 Milada Eisner
 Grace Orvis
 Mable Chenevere

Gladys Roche
 Nan Smith
 Marie Ulrich
 Edith Undentseh
 Edith Jacques
 Diana Trepanier
 Irene Vizneau
 Jean Howley
 Sarah Langlois
 Helen Cichanski
 Florence Hennessy
 Beatrice Hoban
 Mary Ricca
 Geraldine O'Connor
 Cecelia Taylor
 Catherine Aclker
 Anna Swartz
 Ida Doyle
 Ada Green
 Marie Casey

GRACE HOSPITAL, DETROIT



OFFICERS

Colonel Warren L. Babcock, M.D., Superintendent. Miss Harriet Leck, R. N., Principal of Train. School.
 E. F. Collins, M.D., Acting Superintendent. Helen Pollock, R. N., Instructor.
 Myra Babcock, M.D., Anesthetist. Mrs. Gertrude M. Palmer, Pharmacist. Miss Mabelle Noble, Matron.
 Mr. Arthur B. Thompson, Auditor. Mr. Kenneth McKenzie, Cashier. Mr. F. H. Hayes, Steward.

MIRIAM MEMORIAL BRANCH.

Miss Clara Richard, R. N., Supervisor.

Mr. S. R. Kinner, Steward.

PHYSICIANS IN ARMY SERVICE.

W. L. Babcock, M.D.	R. L. Clark, M.D.	C. E. Vreeland, M.D.	C. H. Belknap, M.D.
W. H. Browne, M.D.	A. A. Palmer, M.D.	C. S. Kennedy, M.D.	J. E. Maunders, M.D.
H. K. Shawan, M.D.	W. J. Lovering, M.D.	W. Y. Kennedy, M.D.	F. B. McMullen, M.D.
R. H. Bookmeyer, M.D.	E. W. May, M.D.	Paul Lippold, M.D.	B. F. Vollertsen, M.D.
E. P. Mills, M.D.	L. W. Hull, M.D.	A. R. Smeck, M.D.	L. E. Pangburn, M.D.
J. H. Slevin, M.D.	E. G. Brandenterger, M.D.	H. S. Berman, M.D.	Clarence Stefanski, M.D.
Geo. P. Myers, M.D.	H. W. Plaggemeyer, M.D.	A. W. Hudson, M.D.	R. L. Cowen, M.D.
A. J. Font, M.D.	F. R. Suggs, M.D.	L. R. Kaminski, M.D.	Victor Droock, M.D.
Woen C. Foster, M.D.	F. C. Kidner, M.D.	W. Schegelmilch, M.D.	A. W. Heine, M.D.
F. J. Eakins, M.D.	R. K. Young, M.D.	W. H. Price, M.D.	C. W. Sellers, M.D.
M. F. Hosmer, M.D.	H. A. Shafor, M.D.	H. L. Morris, M.D.	R. G. Brain, M.D.
W. J. Core, M.D.	F. L. Johnson, M.D.	Thos. Van Hunter, M.D.	F. R. Reed, M.D.
M. A. Darling, M.D.	D. M. King, M.D.	A. L. Chapman, M.D.	G. L. Koessler, M.D.
G. G. Dixon, M.D.	C. R. Walsh, M.D.	V. C. Vaughan, M.D.	R. S. Goux, M.D.
Z. L. Kaminski, M.D.	J. M. Sutherland, M.D.	R. R. Goldstone, M.D.	A. W. Metzner, M.D.
G. C. Burr, M.D.	R. G. James, M.D.	H. O. McMahon, M.D.	F. W. Gottschalk, M.D.

NURSES IN SERVICE.

Emma J. McDonald	Imilda B. Vroman	Zayde L. Ives	Eva Babcock
Edith McDougall	Gertrude Wilban	Edith L. Jewell	Ruby M. Barribeau
Minnie McGregor	Beatrice Dewey	Jennie Johnson	Stella C. Beyreis
Florence G. Miller	Violet M. Weston	Edith C. Jones	Edith Blatchford
Phemie Mitchell	Eleanor Budde	Anna C. Kendrick	Emma L. Brosch
Martha G. Murphy	Blanche A. Harrold	Margaret Kennedy	Cora M. Church
Antoinette Nagosky	Ethel M. Bell	Ruth M. Laís	Imogene Clark
Edith M. Pardon	Frances Daley	Mary C. Larkin	Marguerite G. Clark
Emma Pfeiffer	Mary S. Grant	Florence Lee	Olive Clark
Leila Priest	Margaret J. Graham	Florence Lyons	Hilda Cox
Georgina Reid	Florence Gray	Emma McCaw	Margaret Crawford
Mary I. Rowan	Mildred Groom	Helen McConachie	Lillian M. Dent
Odessa M. Shepherd	Helen Hammer	Pearl Wilson	Mary L. Detwiler
Clara Smith	Helen O. Hayes	Rhea Saunders	Hazel Jean Dobie
Blanche Stevens	Margaret Heaslip	Dolena McKay	Beatrice M. Dunlop
Dolina Stuart	Esther E. Hillock	Martha Reed	Jessie Ferguson
Martha Townsend	Rose Hoffman	Anna C. McCahill	Nellie Gerard
Mary Grace Van Wormer	Helen Holmes	Helen Groehn	Calista Goss
Irma E. Rannie	Lillian Armstrong	Vera M. Atchison	Sophonria Glover
Bess Gibson	Ruth Gill	Mina Ruth Marsh	Jane Frank
Clara Gwynn	Mary McBay	Bertha Fackler	Abbie Fitch



BLODGETT MEMORIAL HOSPITAL, GRAND RAPIDS

BLODGETT MEMORIAL HOSPITAL, GRAND RAPIDS

OFFICERS

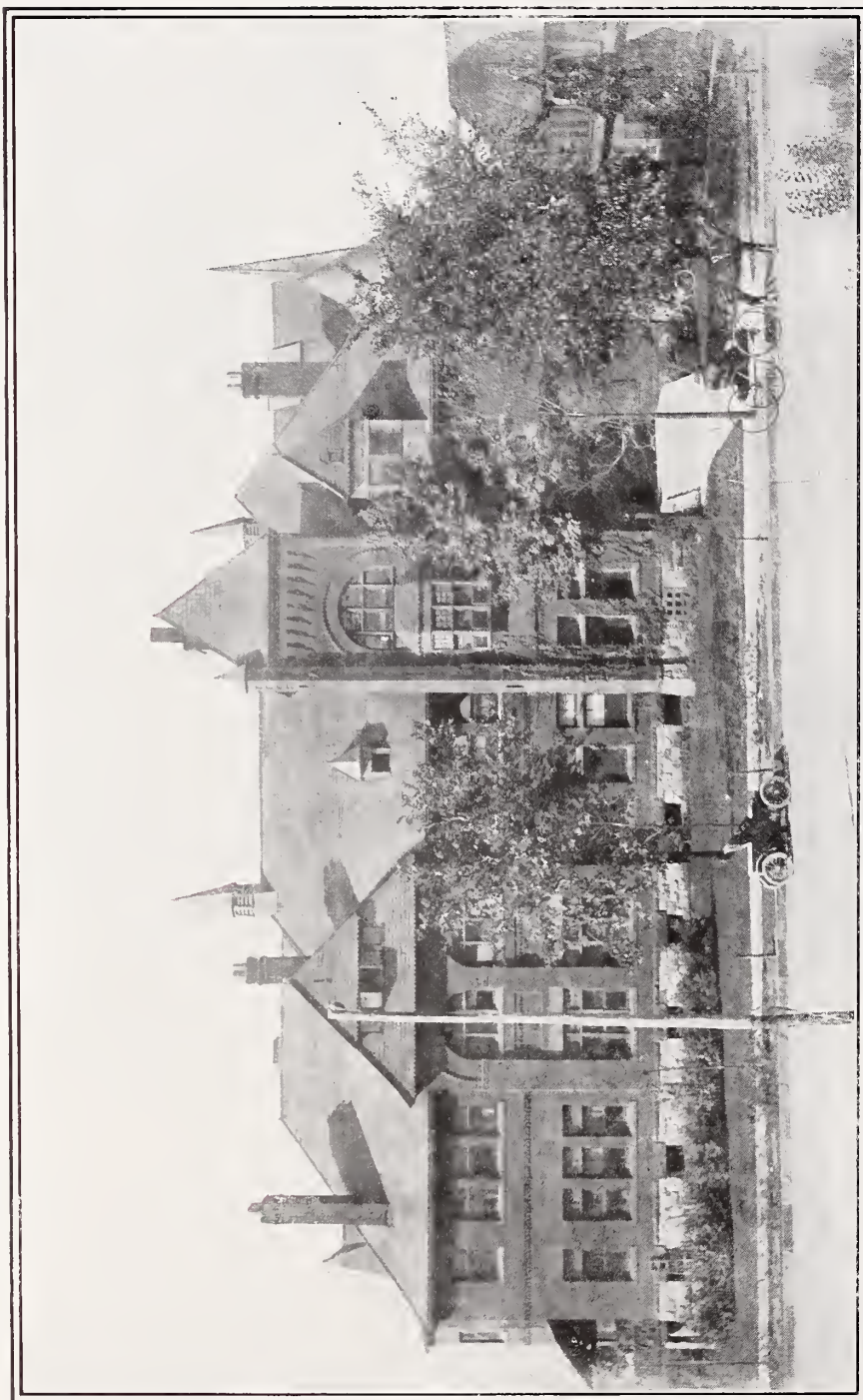
Miss Ida M. Barrett, R. N., Superintendent.	Miss Sabra Oliver, Dietitian.
Mrs. Maude Kelly, R. N., Supervisor of Nurses.	Miss Henrietta A. Wood, Secretary.
Miss Christine M. Hendrie, R. N., Supervisor of Instruction.	Miss Myrtle Carlyle, R. N., Admitting Nurse.
Miss Ann M. McMahon, R. N., Surgical Supervisor.	Miss Elba McNeil, Pharmacist and Housekeeper.
	Dr. A. Anderson, Resident Physician.

NURSES IN SERVICE.

Adele M. Pangler	Anna McPherson	Mae B. Brethour
Winnifred Sallou Dale	*Florence Hankinson	Olive DeBoer
Jessie McRae	Grace E. Myers	Dorothy Gross
Louise E. Weeks	Sidney H. Dorman	Hazel Henry
Cynthia Coburn	Harriett Campbell Koon	Bessie Irwin
Clara Dyring	Mary E. McKenzie	Bernice Prout
Christiana Bauer	Adelaide Tallion	Jean Smith
Effie Moore	Casimira Troski	Marjorie Steckle
Mary L. Simms Evarts	Minnie Vernier	Lida Boyd
Hannah Ackerman	Alice Brink	Lucy Church
Mabel Ruth Smith	Dorothea Luscomb	Agnes Johnson
Katherine A. Arthur	Rose Hanson	Carrie Laubscher
Emma C. Johnson	Mary Mack	Gertrude Laubscher
Margaret Reno	Edna Nummer	Hendrika Brand
Anna Dyring	Louella Rose	Hazel Esther Kuyers
Katherine Hart	Catherine Tate	Edith Anderson
Ann McMahon	Sarah J. Kennedy	Elizabeth Brown
Aline Pipes	Hazel Bryant	Adelia Nash
Carolyn Stratton	Mae Dolliver	Jean Penwarden
Alice E. Hull	Ann Roth	*Frances Buschart
Christine Campbell	Iza Thompson Chase	*Died in service.
Bess Englemann	Edith Bosworth	

NURSES IN TRAINING.

Agnes Boss	Maude Cable	Elizabeth Peschman
Judith Clauson	Ruth Devering	Julia Bocher
Florence Fanjoy	Helen Fair	Jessie Gothro
Leah Henkel	Bertha Geim	Lillian Hodge
Florence Jones	Lois Grant	Marcia Hudson
Wilhelmina Lamser	Joy Harter	Irma Kallinger
Annabel Paterson	Edith Holmes	Jeanette Klassen
Marie Roth	Marjorie McCloskey	Tillie Minnema
Margaret Robinson	Alberta Nash	Frances Morris
Frances Sturtevant	Grace Owen	Esther Mason
Evelyn Smith	Ruth Pellow	Eolyn Mulder
Flossie Wenger	Winifred Rigney	Helene Mulder
Gladys Witmer	Frieda Roth	Lucile McConnell
Elizabeth Waterman	Lena Sabin	Olive McCready
Annabelle Campbell	Bertha Timmer	Ida Paul
Vera Cooper	Elizabeth Grennan	Alice Raboin
Madge Henkel	Selma Bergstrom	Besse Reenders
Velva Holben	Mary Louise Buck	Gertrude Rideout
Jennie Nienhuis	Melba Dunfield	Aileen Rice
Winona Pratt	Lois Flaherty	Hattie Smitters
Ida Steffensen	Helen Poel	Marion Sywassink
Rose Wehren	Margaret Stokoe	Grace VantHof
Evelyn McKee	Elizabeth Wenger	Mary Van Putten
Elizabeth Bryce		



BUTTERWORTH HOSPITAL, GRAND RAPIDS

BUTTERWORTH HOSPITAL, GRAND RAPIDS

OFFICERS

Miss Elizabeth Selden, R. N., Superintendent.	Miss Viola Scharlach, R. N., Supervisor Golden Rule Cottage.
Miss Marie Ballbach, R. N., Assistant Superintendent.	Miss Bernice Kauffman, Dietitian.
Miss Mabel Miller, R. N., Night Superintendent.	Miss Norma C. Hawley, Pharmacist.
Miss Harriet Davis, R. N., Instructor of Nurses.	William Camp, M. D., House Physician.
Miss Irene Barnes, Supervisor Operating Room.	Thomas R. Kemmer, M. D., House Physician.
Miss Jean Donahue, R. N., Supervisor Maternity Cot.	

NURSES IN TRAINING.

Lena Laude	Amanda Brandt	Effie Mulder
Ruth Carmichael	Frances Simkins	Marguerite Smith
Olga Gunneson	Norma Elkins	Grace Connor
Grace Boerman	Clara Holkeboer	Jean Bowman
Gladys Bowe	Abbie Moore	Margaret Hagni
Evelyn Knutsen	Angelina Broekstra	Bernadine Bovee
Elizabeth Ploeg	Kathleen Besig	Catherine Jonker
Anna Yonkers	Violet Sturtevant	Aouda Derby
Susan Nickerson	Nettie Gravelle	Maren Lyndrup
Angie Luidens	Martha Ward	Ethel Sabin
Ruth Dwinell	Rose Jensen	Harriet Brummeler
Alta Wade	Ellen Wait	Augusta Miller
Clara Brandt	Esther Streblow	Vernice Leavitt
Verna Johnson	Evelyn Jensen	Bessie Pelton
Esther Calkins	Mildred Lokker	Dora Doorne
Sadie Neuwsma	Isabel Bradish	Avis Huttleston
Nina Buhrer	Nora Wood	Ruth Collar
Gertrude Gunther	Kathryn Boone	Helen Albee
Hazel Clark	Catherine Loggers	Susie DeVries
Ruth Clark	Olive Font	Olive Potter
Gudrun Olsen	Vada Caldwell	Alyda Prins
Lena Butzer	Ida Marie Pekkala	Myrtle Hooven

GRADUATE NURSES WHO HAVE BEEN IN MILITARY SERVICE.

Enid Bailey	Sarah Halsey	Dorothy Pierce
Irene Bailey	Ethel Howard	Hattie Ploeg
Clara S. Barton	Eda B. Helme	Permelia Russell
Zilla Bartlett	Dena Henderson	Mary Rutherford
Henrietta Baker	Maud Hall	Mary J. Smith
Jessie M. Brown	Grace Ingram	Alice Smith
Lulu Cudney	Alice Joldersma	Mrs. J. G. Slayton
Jean Clark	Rachel Jones	Florinne Smith
Blanche Cowan	Berthal Jones	Ann Sexton
Florence Cowan	Esther Jarvella	Anna M. Speers
Stella Crook	Eleanor Lason	Ethel M. Shaw
Ruby Cameron	Laura Lott	Bertha Stauffer
Calla Dean	Inez Mosher	Mary VanDommelen
Jeannette DeWitte	Carolyn Moir	Elizabeth Watson
Annie Evans	Sars McCallum	Mrs. Clara Widdicomb
Lillian Erickson	Mary Mingame	Jane Wagner
Florence Fisher	Lois Noggle	Ruth Ward
Anna Franklin	Anna Nielson	Mrs. Horace Beels
Susie Geer		

NURSES IN TRAINING WHO HAVE BEEN IN MILITARY SERVICE.

Olga Gunneson	Elizabeth Ploeg	Amanda Brandt	Alta Wade
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ST. MARY'S HOSPITAL, GRAND RAPIDS

SISTERS OF MERCY IN CHARGE.



NURSES IN SERVICE.

Bertha B. Blazen
 Rose Willems
 Rachel Clark
 Rose Armock
 Emmeline Renis
 Mary Rozzasco
 Alvera Castner
 Oliva Son
 Hannah Farrell
 Alice Gleason
 Teresa Hayes
 Anna O'Connor
 Hyacinthe Fox
 Mary Compton

Mary Murphy
 Mabel Rayson
 Iva Gregory
 Abby Wernette
 Eva Bergin
 Clara Whalen
 Frances Diendorf
 Harriet Boulette
 Helen Bauman
 Irene Carmody
 Clara Prein
 Lucile Seeley
 Anastasia Hall

Gertrude Kennedy
 Hazel Masson
 Frances Nelson
 Eleanor Cook
 Margaret Van Gorp
 Teresa Van Dreumel
 Rose Lynch
 Mary Grinzinger
 Mary Grinzinger
 Mary Daller
 Rosemary Kennedy
 Harriet Kuemin
 Rose George

NURSES IN TRAINING.

Anna Willems
 Teresa Bell
 Beatrice Norton
 Helen Ryan
 Josephine Schmitt
 Hazel MacKenzie
 Rose Anton
 Dorothy Brady
 Madge Bresnahan
 Anna Coyle
 Catherine Grace
 Bridget Grace
 Philomena Fox
 Adelaide Gauthier
 Margaret Lyons
 Helen Young
 Martha Gerschewski
 Anna Kaplanowski

Mamie Moblo
 Agnes Homonga
 Frances Robinson
 Laura Koster
 Ellen Kinney
 Anna Filey
 Catherine Paulus
 Ruth Burdick
 Teresa Heyda
 Elizabeth Schweikert
 Josephine Cordes
 Antoinette Rademacher
 Mabel Winkley
 Mildred Jakeway
 Rosina Kelling
 Elizabeth Rowan
 Margaret Lorenz

Eleanor Ratajczak
 Helen Liwosz
 Celestine Springer
 Mary Rutkowski
 Evelyn Clinton
 Teresa Engler
 Mabel Brennan
 Esther Lawless
 Lucille O'Connor
 Abbie Wagar
 Cecelia Giel
 Edna Howe
 Catherine Wagner
 Beatrice Zahn
 Marie Rafferty
 Mary Behan
 Grace Halloran

WOMAN'S HOSPITAL ASSOCIATION, SAGINAW

OFFICERS

Miss Lydia Thompson, R. N., Superintendent.

Miss Bertha Leesor, Night Supervisor.

Miss Lela Burnham, R. N., Assistant Superintendent.

Miss Nell Penoyer, Dietitian.

Miss Agnes Neilan, Surgical Supervisor.



NURSES IN SERVICE.

Sarah J. Grumbley
 Estella Norman
 Gertrude Neuhaus
 Helen Dutcher

Faith Liscomb
 Myra Kimball
 Jean Bell
 Celia Humpert

Margaret Shilson
 Frances Hydom
 Charlotte Pocoko

NURSES IN TRAINING.

Alice Lachie
 Caroline Camp
 Lillian Zoller
 Ira Rogers
 Lillian Clark
 Kathryn Brecktiesbaur
 Clyta Kerr
 Hildegard Ruthmeier

Edith Gray
 Cecil Dunn
 Claudia Mapletuft
 Lucile Seath
 Elsie Gwatkowski
 Julia Nelson
 Mary Cate

Mary Gunnell
 Elsie Braun
 Alice Johnson
 Hazel Carpenter
 Susanna Block
 Marguerite Marshall
 Gladys Lathrop

ST. MARY'S HOSPITAL, SAGINAW



OFFICERS

Sister Eugenia, Superintendent of Hospital.

Sister Veronica, R. N., Superintendent of Nurses.

NURSES IN SERVICE.

Anna Gummick
 Anna Milloy
 Helen Holihan
 Frances Bennett
 Blanch Kirsh
 Helen McGrath
 Hannah Compton
 Clotilda Price
 Matilda Bruno
 Jessie Osborn
 Edna Gase
 Alice Price
 Caroline McManmon
 Katherine McFadden
 Eva Venner

Elsa Gallinger
 Ligouri Cronk
 Gertrude Tarrant
 Helen Butler
 Teresa O'Connor
 Marguerite McKittrick
 Mary Kehoe
 Winifred Murphy
 Hattie Morgan
 Pricilla Jacobs
 Marie Phillips
 Regina Suprenant
 Margaret Cody
 Winifred Cody

Mary McGovern
 Flora Portwine
 Helena Murray
 Bernadette Hamlin
 Louise Dehmel
 Anna Lynch
 Alma List
 Gertrude Germain
 Emma Piaszek
 Genevieve Brangwin
 Josephine Lipinski
 Katherine Dietrich
 Evelyn Pitt
 Imogene Hickey

NURSES IN TRAINING.

Laura Senay
 Elizabeth Lynch
 Rosemary Lynch
 Annis Parker
 Rose McKenna
 Jane Rilette
 Irene Krebs
 Margretta Bluem
 Margaret Faucher
 Mrs. Delina Mainville
 Eulalia Jorae
 Bernadette Michelin
 John Kleaver

Rena Tremblay
 Emma Chartier
 Edith McCann
 Hazel Marshall
 Mary Morris
 Hazel Cogswell
 Byrdella Forbes
 Ann Allen
 Ellen Darby
 Frances Corbot
 Henrietta Hamlin
 Della Hilger
 Catherine Milloy

Marie DesMarais
 Josephine Early
 Iva Wilkes
 Mary Sias
 Lucy Morris
 Martha Niver
 Agatha Murray
 Jessie Dunlap
 Alice McKinney
 Mrs. Elsie Robbins
 Augusta Hursley
 Frances Kehoe

SAGINAW GENERAL HOSPITAL, SAGINAW



OFFICERS

L. Matthews, R. N., Superintendent.
 H. Jackson, R. N., Assistant Superintendent.
 Grace Pritchard, R. N., Surgical Supervisor.

Emily Egeles, R. N., Night Superintendent.
 Nellie McMillen, R. N., Visiting Nurse.
 Jane Rigterink, Dietitian.

NURSES IN SERVICE.

Elizabeth Wilson
 Mayme McKay
 Isabel McNally
 Edith Arthur
 Hazel McCarthy
 *Goldie Travis
 Ida Stoskoff
 Grace Lewis
 Ruth Hobkirk
 Hattie Ruff
 Ida Johnson
 Alta Lasalle
 Cora Davies
 Lula Canham

Martha Kiebusch
 Charlotte Barry
 Rose Miller
 Rose Morrow
 Lilian Byron
 Rose Galsterer
 Helena Gibson
 Bertha Cooper
 Jennie Ferguson
 Anna Lang
 Alice Jones
 Gladys Jones
 Lula Dixon
 Amelia Landskroener

Elizabeth Lindner
 Jessie Smith
 May McClure
 Gladys Gibson
 J. E. Burke
 Martha Riedel
 Zeta Beattie
 Mrs. Lottie Dalrymple
 Hazel Felton
 G. Humes
 Emily Egeler
 Mrs. Nellie McMillen
 *Died in service.

NURSES IN TRAINING.

C. Boehm
 G. Streeter
 M. Brathby
 M. Winneger
 B. Hood
 M. McCullough
 H. Lutz
 J. Baade
 E. Krabbe
 E. Ledtke

I. Harper
 M. Engel
 N. Howard
 A. Donoghly
 D. McCrary
 E. Nisonger
 M. Scallachi
 H. Snyder
 M. Winter
 T. Cabbage

E. Steltzriede
 C. Grierson
 K. Sturm
 L. Campbell
 L. Eichorn
 M. Gass
 G. Wright
 F. Hemke
 R. Franc

BAY CITY HOSPITAL, BAY CITY

OFFICERS

Henrietta A. Lowthian, R. N., Superintendent.

Mae McCartney, R. N., Assistant Superintendent.

NURSES IN SERVICE.

Julia D. Reithmeier

Flora E. Robarge

Iva Holmes



NURSE IN SERVICE.

Theresa Gust
Ida Fogelsinger
Helen Parker

Minna Yahn
Jane Brown
Helen Reithmeier

Anna Kraft
Luella Pfenninger
Beatrice Loose

MERCY HOSPITAL, BAY CITY



OFFICERS: Sister M. Baptist, Superintendent; Sister M. Fidelis, Laboratory, Pharmacy, Technician; Sister M. Gregory, Supervisor of Floors; Sister M. De Pazzi, Night Supervisor; Sister M. Clare, Supervisor of Operating Room.

NURSES IN SERVICE: Nellie Cavan, Nellie Haley, Irene Easton, Mrs. Velida Duclo Baurdin, Frank Donoghue, Edward Hempel, Minnie Bedaur, Laura Bedour, Ellen Lynch, Cecil La Rue, Julia Schneble, Minnie Parton, Louise Bonem, George McGraw.

NURSES IN TRAINING: Elizabeth Cardinal, Helena Whitney, Myrtle Green, Muriel Kelley, Lillian Ray, Mildred Payette, Viola Leahy, Veronica McMahn, Grace Stepler Anna Ryan, Edith Preston, Elizabeth O'Meara, Hilda Wirth, Maude Moss, Trevah Priest, Grace O'Leary, Abbie Moriarty, Gertrude Young, Anna O'Meara, Carmen Le Gary, Anna Toppa, Irene MacKay, Mary MacKay, Erma Foley, Victoria Eurek, Dorothy Russett, Elizabeth Powers, Eva Smith, Elsie Rowden, Mary U. Habrick, Josephine Ryba, Catherine Kaufman.

HACKLEY HOSPITAL, MUSKEGON



OFFICERS

Grace D. McElderry, Superintendent.

NURSES IN SERVICE.

Margaret J. Robinson	Ruby I. Barton	Augusta Matson	Eva Gordan
Lida Bodfish	Margaret VanStensel	Mehala Rice	Amy O. Burns
Ellen Anderson	Hilda Carey	Katherine Dwyer	Grace Bode
Anna Ewing	Ann Brady	Florence Hanley	Leta Chapman
Martha Wenger	Mabel Hoffman		

ST. MARY'S HOSPITAL, MARQUETTE



MERCY HOSPITAL, MUSKEGON



OFFICERS

Sister M. Blanche, Superintendent.
 Sister M. Germain, Superintendent of Nurses.
 Sister M. Neri, Night Superintendent.

Sister M. Thomasine, Dietitian.
 Sister M. Raymond, Surgical Supervisor.

NURSES IN SERVICE: Florence Viviae, Lea Chassie, Christina Nies, Mrs. Mary Carey, Bertha Leak, Mary Hosted, Catherine Ware, Irene Marconx, Carry Rogers, Carmin Bradley, Marie Kelakoski, Bernice Falls.

NURSES IN TRAINING: Katherine Fitzpatrick, Delia Beaulieu, Leonella Gable, Jean Sewell, Agnes Crowley, Mildred Burns, Mamie Kokx, Catherine Murphy, Helen Stott, Mary Ahern, Lucille Gartha Schiller, Florence King, Norine Fahey, Mary Pals.rett, Marie Cyr, Rose Senical, Mary Aleszkiewicz, Ma

ST. JOSEPH'S HOSPITAL AND NURSES' TRAINING SCHOOL, MENOMINEE.



NICHOLS MEMORIAL HOSPITAL, BATTLE CREEK



OFFICERS

Miss Jean B. McIntosh, R. N., Superintendent.

Miss Adda M. Brace, R. N., Assistant Superintendent.

Miss Dora E. Heppard, R. N., Instructor.

Miss Jean McGregor, R. N., Night Supervisor.

Mrs. Florence Hart, Surgical Supervisor.

Miss Bernice Francois, Dietitian.

NURSES IN TRAINING.

Mrs. Slater

Miss Cargo

Miss Hildenbrandt

Miss Baker

Miss Foster

Miss Ward

Miss Dinger

Miss Stefanac

Miss Wyatt

Miss Bentley

Miss Hehnlín

Miss Rolfe

Miss Marshall

Miss Hartford

Miss Munn

Miss Fahr

Miss Demmon

Miss E. Armour

Miss Watkins

Miss Snavelly

Miss Austin

Miss A. Armour

Miss Hamilton

Miss Lelia Pier

Miss Long

Miss O'Neil

Miss Phippeny

Miss M. Peterson

Miss M. Macaulay

Miss Stephens

Miss Lehr

Miss Reed

Miss Stockham

Miss Hayes

Miss Squire

Miss Bye

Miss A. M. Peterson

Miss Carlson

Miss Meier

Miss K. Macaulay

NURSES IN SERVICE.

Gertrude Ferguson

Mary Miller

Mable Shotwell

Jessie Wilson

Grace Daly

Sena Nelson

Crystal McCord

Harriett Waller

Martha Heaney

Dola Keach

Alice Phillips

Alma Simpson

Orpha Gould

Eva Kelly

Clara Gasser

Weta Hawks

Leota Gifford

Kathryn MacGregor

Lenore Parsons

Zilpha Bartlett

Jennie Sanders

Aleene Sleeper

Renda Aldrich

Emma Pombier

Margaret Ross

Mrs. Lena Green



ED. W. SPARROW HOSPITAL, LANSING

MERCY HOSPITAL, BENTON HARBOR



OFFICERS

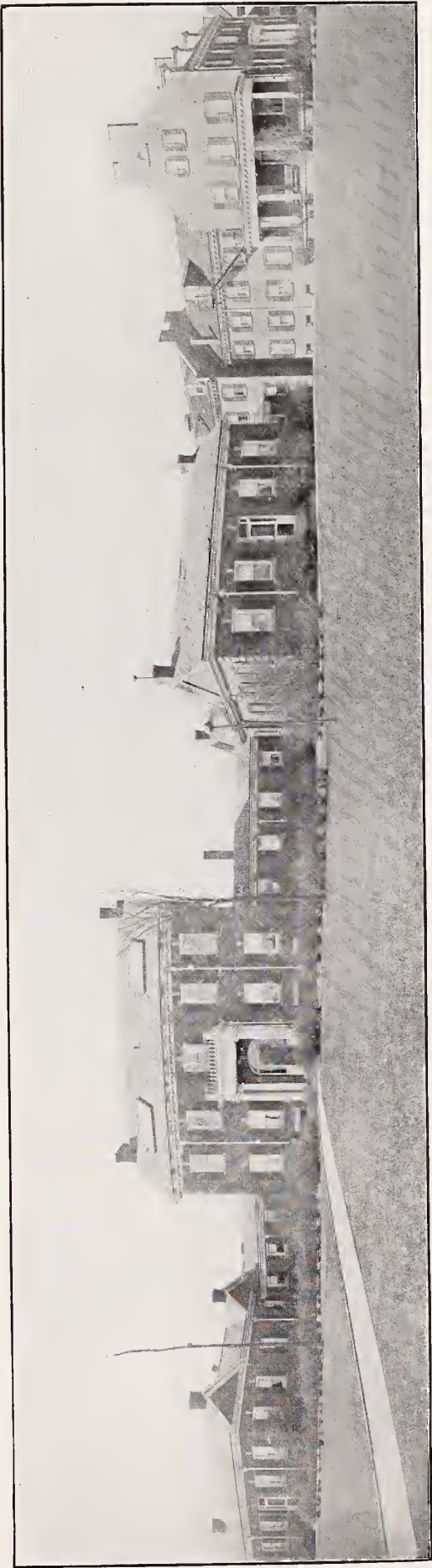
Miss Mae H. Fye, Superintendent.
Miss Anna S. Magaha, Dietitian.
Miss Anne Mary McMahon, Anesthetist and Surgical Supervisor.
Miss Virginia McElroy, Book-keeper.

NURSES IN SERVICE. Miss Marie Furman

NURSES IN TRAINING.

Miss Easton
Miss Finder
Miss Peterson
Miss Habel
Miss Jaffke
Miss Swing
Miss E. Swing
Miss Cookson
Miss F. Anderson
Miss M. J. Anderson
Miss Beyers

HURLEY HOSPITAL, FLINT



Anna M. Schill, R. N., Superintendent.
M. Edna McDonald, R. N., Assistant Superintendent
and Instructress of Nurses.
Elizabeth M. Davis, R. N., Supervisor of Nurses.

Electa Kindelsperger, Assistant Superintendent.

Mary M. Harrington
Alida Carpenter

Mary Palmer
Lena Grover

Edith Myers
Maude Gibson
Phyllis Bathers
Irene Bali
Ida Wolfekotter
Frances Murphy
Elizabeth Bullard
Mabel Clark

Lillian Williams
Mary Sorter
Adeline Rahn
Freida Chamberlain
Mrs. Margaret Erwin
Ellen Nelson
Ina Balsley.
Esther Crapo

OFFICERS

Louise A. Lindsay, Night Supervisor.
Elizabeth Smith, R. N., Surgical Supervisor.
A. Menotah Roberts, R. N., Maternity Supervisor.
Rhoda McKenzie, Floor Supervisor.

Winifred Westbrook, R. N., Isolation Supervisor.
Dorothy Bennett, R. N., Asst. Supt. Isolation Dept.
Caroline Gregory, R. N., Housekeeper.
Mary Edna Wisler, Dietitian.

SUPERVISORS IN SERVICE.

Ersa Carroll, Isolation Supervisor.

Jennie Dahl, Night Supervisor.

NURSES IN SERVICE.

Marie Smith
*Mayme L. Wright
*Died in Service

Annie Leslie
Minnie Lester

Elsie Tomkinson
Sara Ravvitch

Annie Ravvitch
Mabel Smith

NURSES IN TRAINING.

Edna Murray
Norma Shaw
Agnes Vanderveen
Marion Tompkins
Stella Bruce
Isabelle McLeod
Lottie Lone
Helen Edwards

Frances Ross
Sylvia Drager
Miss Josephine James
Sarah Cooper
Maud Massey
Lucile Olmstead
Miss Leota Luth

Esther Smith
Pauline Sherman
Dorothy Gilmour
Bertha Hale
Asta Lenz
Frances MacPherson
Anna Leach

ANN ARBOR PRIVATE HOSPITAL, ANN ARBOR



OFFICERS

Miss Fantine Pemberton, R. N., Superintendent. Miss Kathryn Sterling, R. N., Asst. Superintendent.
Miss Ione Wessinger, R. N., Instructor and Anesthetist. Miss Ildah M. Brinsmade, Dietitian.

NURSES IN TRAINING.

Minnie C. Jackson	Zelma Adams	Bonnie G. Willings
Kathryn Shellhaas	Helen M. Flint	Margaret L. MacDermott
Rhea Dixon	Mary F. Moyemont	Irene La Count
Esther Burrell	Sara Icks	Frances Jewell
Edna Pardee	Elizabeth Stimson	Dorothy Hinton
Elsie Turner	Frances Schleeter	Ruth Vandawarker
Sara L. Reynolds	Susie S. Grainger.	Louise M. Dobson

OFFICERS OF THE HOSPITAL DURING THE WAR.

Miss Elba L. Morse, R. N., Superintendent.	Miss Harriet Huebel, Assistant Superintendent.
Miss Ione Wessinger, Instructor, succeeded by Mrs. Julia Aldrich Jenks, R. N.	Miss Winifred Looker, Dietitian, succeeded by Miss Marion Peterson.

NURSES IN SERVICE.

Mildred Boyle, R. N.	Winifred Looker	Gwendolyn Scriven, R. N.
Emma Cross, R. N.	Mrs. Mabel Johnston, R. N.	Louise Sells, R. N.
Esther Laverne Gamble, R. N.	Mildred Maurer, R. N.	Catherine Young, R. N.
Mary Given, R. N.	Mayme Noonan, R. N.	Ione Wessinger, R. N.
Harriet Huebel, R. N.	Bella Prentice, R. N.	

PETOSKEY HOSPITAL, PETOSKEY



OFFICERS

Anna L. March, R. N., Superintendent.

NURSES IN TRAINING.

Emma Bosma
 Estella Annesser
 Clara Johnson
 Anna DeKraker
 Ruth Marsh

Caroline Shearer
 Jessie Stokes
 Pearl Gill
 Mary Barnes

Myrtle Harmon
 Lina Brown
 Grace Fuller
 Mildred Wren

NURSES IN SERVICE.

Anastasia Linehan, R. N.
 Garnetta Ludeman, A. N. C.
 Freida Hetzel, A. N. C.

Lilah LaCroix
 Mae Gallagher, R. N.

Helen Boss
 Elizabeth Schneider

UNIT Q

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Capt. John T. Hodgen, Grand Rapids

Capt. S. Merrill Wells, Grand Rapids

Capt. C. W. Deaver, Grand Rapids

Capt. L. E. Sevey, Grand Rapids

Capt. A. J. Bower, Greenville

Major A. W. Campbell, Grand Rapids

Lieut. Col. Richard R. Smith, Grand Rapids

Major J. B. Whinery, Grand Rapids

Major I. D. Bruce, Grand Rapids

Lieut. Fred P. Currier, Grand Rapids

Lieut. C. A. McNabb, Grand Rapids



DR. RICHARD M. OLIN,
State Health Commissioner,
Caro.

Advisory Council of the State Health Commission.

Dr. Guy L. Kiefer, Detroit
Dr. J. W. Turner, Houghton
Dr. C. C. Slemons, Grand Rapids
Dr. F. M. Gowdy, St. Joseph



G. W. BYINGTON,
Director Venereal Division,
Charlotte

KATHARIN OSTRANDER,
Director Social Service Department

MARJORIE DELAVAN,
Director Education Department

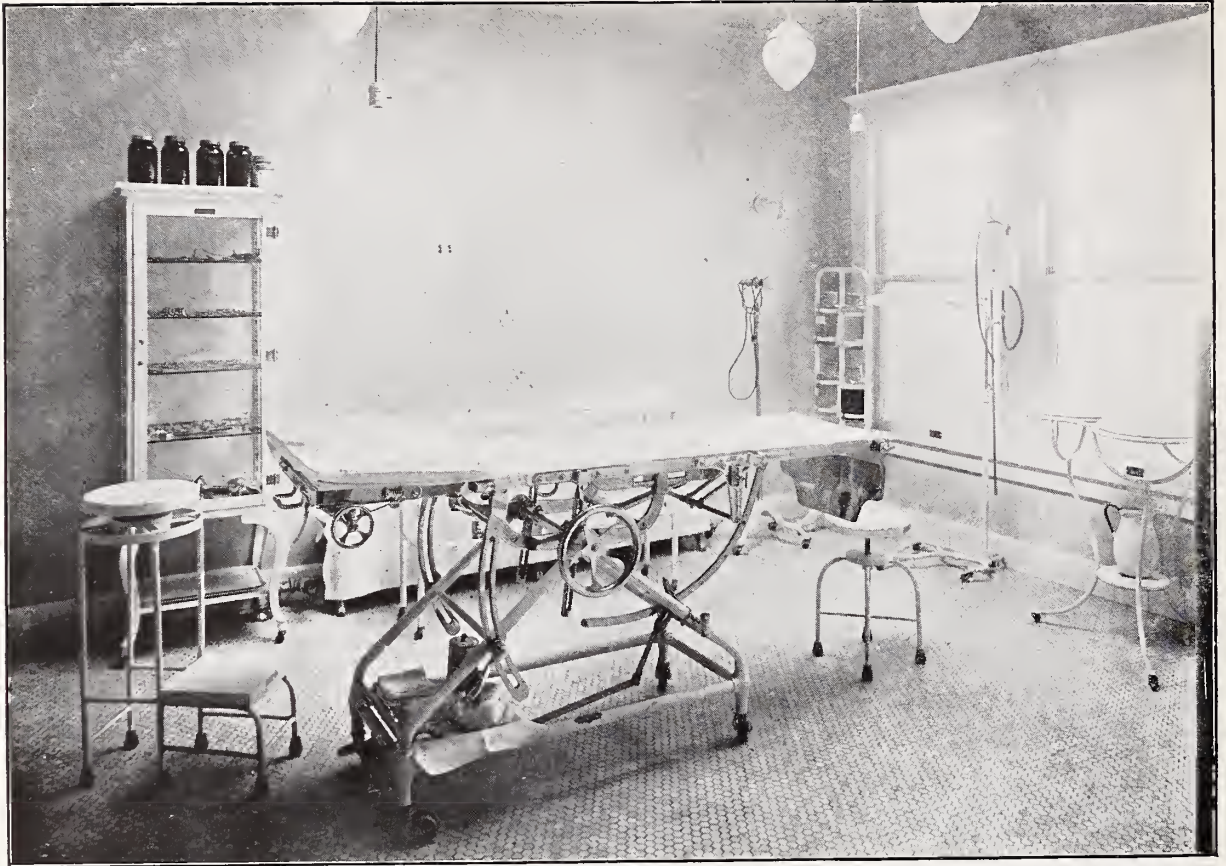
DEVORE HOSPITAL, GRAND RAPIDS (Venereal Section)



LOUNGING ROOM—DEVORE HOSPITAL, GRAND RAPIDS



MEN'S WARD, DEVORE HOSPITAL, GRAND RAPIDS



TREATMENT ROOM—VENEREAL SECTION—DEVORE HOSPITAL, GRAND RAPIDS

OFFICERS

Dr. J. A. DeVore, M. D. in Charge.
 Frances L. DeVore, R. N. Superintendent.
 Margaret Teal, Field Social Service Worker.
 Frances L. Smith, Hospital Social Service Worker.

Margaret Haight, Nurse in Charge.
 Margaret Allen, Day Matron.
 Inez Bradley, Night Supervisor.
 Verna Rifenberg, Night Supervisor.

OUR HONOR ROLL

Allegan County.

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Alpena County.

Dr. Clarence M. Williams, Alpena.

Antrim County.

Dr. Bernard J. Beuker, Atwood; Dr. Edward W. Vis, Central Lake; Dr. Versile M. Gates, Eastport; Dr. Louis N. Yerkes, Elk Rapids; Dr. Worth W. Walton, Mancelona.

Baraga County.

Dr. Frank F. Marshall, Pequaming.

Barry County.

Dr. Maurice J. Cross, Delton; Dr. Birge C. Swift, Middleville.

Bay County.

Dr. F. S. Baird, Bay City; Dr. F. W. Brown, Bay City; Dr. S. L. Ballard, Auburn; Dr. C. V. Crane, Tawas City; Dr. V. H. Dumond, Bay City; Dr. E. Goodwin, Bay City; Dr. E. S. Huckin, Bay City; Dr. H. P. Lawrence, Pinconning; Dr. R. C. Perkins, Bay City; Dr. F. H. Randall, Bay City; Dr. R. E. Scrafford, Bay City; Dr. M. R. Slattery, Bay City; Dr. P. R. Urmston, Bay City.

Benzie County.

Dr. C. P. Doyle, Frankfort.

Berrien County.

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Branch County.

Dr. W. J. Bien, Union City; Dr. W. A. Griffith, Coldwater.

Calhoun County.

Dr. J. T. Case, Battle Creek; Dr. E. M. Chauncey, Albion; Dr. James Elliott, Battle Creek; Dr. R. V. Gallagher, Battle Creek; Dr. J. G. Gage, Battle Creek; Dr. W. Haughey, Battle Creek; Dr. G. C. Hafford, Albion; Dr. A. A. Hoyt, Battle Creek; Dr. J. J. Holes, Battle Creek; Dr. C. W. Heald, Battle Creek; Dr. T. Kolvoord, Battle Creek; Dr. A. C. McCurdy*, Battle Creek; Dr. W. N. Putman, Battle Creek; Dr. A. H. Ross, Battle Creek; Dr. A. J. Read, Battle Creek; Dr. R. D. Sleight, Battle Creek; Dr. R. C. Stone, Battle Creek; Dr. L. H. Tower, Battle Creek; Dr. E. Van Camp, Athens; Dr. C. G. Wencke, Battle Creek.

*Died in France, November 28th, 1918.

Cass County.

Dr. Edgar C. Dunning, Cassopolis; Dr. Chas. M. Harmon, Cassopolis; Dr. James H. Kelsey, Cassopolis; Dr. Walter S. Sharpe, Dowagiac; Dr. Ralph P. Jones, Marcellus.

Charlevoix County.

Dr. Allan M. Wilkinson, Charlevoix; Dr. Hugh W. Dicken, East Jordan.

Cheboygan County.

Dr. Arthur J. Sahs, Cheboygan; Dr. Lyle D. McMillan, Indian River; Dr. Allen C. Tiffany, Mackinaw; Dr. A. McKillop, Wolverine.

Chippewa-Luce-Mackinac County.

Dr. F. C. Bandy, Newberry; Dr. M. V. Gates, Eastport; Dr. R. D. Scott, Rudyard; Dr. T. R. Whitmarsh, Ypsilanti; Dr. R. C. Winslow, Sault Ste. Marie; Dr. I. V. Yale, Sault Ste. Marie.

Clare County.

Dr. Arthur R. Mussell, Clare; Dr. Burton J. Sanford, Clare.

Clinton County.

Dr. M. S. Gregory, Eureka; Dr. W. A. Scott, St. Johns; Dr. D. H. Silsby, St. Johns; Dr. W. M. Taylor, Ovid.

Delta County.

Dr. J. L. Conover, Rapid River; Dr. H. W. Long, Escanaba, Dr. J. J. Walch, Escanaba.

Dickinson County.

Dr. Robert E. Hayes, Channing; Dr. Gustavus W. Moll, Foster City; Dr. Samuel E. Cruse, Iron Mountain.

Eaton County.

Dr. Stanley A. Stealy, Charlotte; Dr. Wells B. Fillinger, Grand Ledge; Dr. Clyde L. D. McLaughlin, Vermontville.

Genesee County.

Dr. G. H. Bah'man, Flint; Dr. C. S. Ballard, Flint; Dr. M. W. Clift, Flint; Dr. C. P. Clark

Flint; Dr. Henry Cook, Flint; Dr. V. H. DeSomaskeoy, Flint; Dr. J. W. Evers, Flint; Dr. G. R. Georing, Flint; Dr. B. Goodfellow, Clio; Dr. J. N. Houton, Flushing; Dr. J. Houston, Swartz Creek; Dr. J. G. R. Manwaring, Flint; Dr. F. B. Miner, Flint; Dr. R. S. Morrish, Flint; Dr. W. H. Marshall, Flint; Dr. J. W. Orr, Flint; Dr. A. T. Pauell, Flint; Dr. K. G. Pratt, Flint; Dr. F. E. Reeder, Flint; Dr. W. C. Reid, Grand Blanc; Dr. A. J. Reynolds, Flint; Dr. E. C. Rumer, Flint; Dr. H. E. Randall, Flint; Dr. F. A. Roberts, Flint; Dr. B. R. Sleeman, Linden; Dr. W. H. Winchester, Flint; Dr. L. S. Willoughby, Flint.

Gogebic County.

Dr. C. D. Collins, Ironwood; Dr. G. J. Curry, Watersmeet; Dr. E. B. Stebbins, Ironwood.

Grand Traverse-Leelanau County.

Dr. G. A. Holliday, Traverse City; Dr. G. M. Johnson, Traverse City; Dr. W. D. Mueller, Traverse City; Dr. E. L. Thirlby, Traverse City; Dr. L. N. Yerkes, Elk Rapids.

Gratiot-Isabella-Clare County.

Dr. Ralph E. Dawson, Blanchard; Dr. C. B. Gardner, Alma; Dr. C. D. Pullen, Mt. Pleasant; Dr. A. R. Mussell, Clare; Dr. B. J. Sanford, Clare; Dr. T. P. Vanderzalm, Blanchard; Dr. M. C. Hubbard, Vestaburg.

Hillsdale County.

Dr. W. R. Atterbury, Litchfield; Dr. T. H. E. Bell, Reading; Dr. B. F. Green, Hillsdale; Dr. E. A. Martindale, Hillsdale; Dr. H. C. Miller, Hillsdale; Dr. I. J. Stoner, Jonesville.

Houghton County.

Dr. J. F. Barton, Calumet; Dr. R. B. Harkness, Houghton; Dr. H. M. Joy, Calumet; Dr. N. S. MacDonald, Houghton; Dr. P. D. MacNaughton, Calumet; Dr. J. D. McKinnon, Calumet; Dr. F. F. Marshall, Pequaming; Dr. V. L. Oler, Kearsarge; Dr. B. H. Olmsted, Calumet; Dr. L. M. Power, Hancock; Dr. James Rhines, Laurium; Dr. D. D. Todd, Adrian; Dr. A. R. Tucker, Mohawk; Dr. L. E. Werry, Calumet.

Huron County.

Dr. A. E. W. Yale, Pigeon.

Ingham County.

Dr. H. S. Bartholomew, Lansing; Dr. C. L. Barber, Lansing; Dr. M. L. Cushman, Lansing; Dr. F. J. Drolett, Lansing; Dr. Clara Davis, Lansing; Dr. C. W. Ellis, Lansing; Dr. L. A. Humphrey, Lansing; Dr. M. L. Holm, Lansing; Dr. H. B. Knapp, Lansing; Dr. H. W. Landon, Lansing; Dr. R. R. McCrumb, Lansing; Dr. C. H. Murphy, Lansing; Dr. H. A. Miller, Lansing; Dr. A. E. Owen, Lansing; Dr. R. A. Pinkham, Lansing; Dr. J. G. Ru'ison, Lansing; Dr. M. Shaw, Lansing.

Ionia County.

Dr. Vener H. Kitson, Ionia; Dr. Julius H. Powers, Ionia; Dr. Perry C. Robertson, Ionia; Dr. Frederick L. Morse, Lake Odessa; Dr. Nelson McLaughlin, Lake Odessa.

Jackson County.

Dr. W. B. Anderson, Jackson; Dr. H. D. Brown, Jackson; Dr. R. Cooley, Jackson; Dr. C. R. Dengler, Jackson; Dr. C. E. DeMay, Jackson; Dr. W. H. Enders, Jackson; Dr. H. L. Hurley, Jackson; Dr. Thos. Hackett, Jackson; Dr. R. G. Hendricks, Jackson; Dr. W. Lake, Grass Lake; Dr. R. H. Leece, Munith; Dr. D. B. Marsh, Jackson; Dr. J. J. McCormick, Jackson; Dr. C. D. Munro, Jackson; Dr. Fred Main, Jackson; Dr. J. A. McQuillan*, Jackson; Dr. J. O'Mara, Jackson; Dr. E. S. Peterson, Jackson; Dr. G. Seybold, Jackson; Dr. G. E. Winter, Jackson.

*Killed in France, October 26, 1918.

Kalamazoo Academy of Medicine.

Dr. R. U. Adams, Kalamazoo; Dr. Ralph E. Balch, Kalamazoo; Dr. W. Collins, Kalamazoo; Dr. O. H. Clark, Kalamazoo; Dr. L. J. Crum, Kalamazoo; Dr. A. E. Henwood, Kalamazoo; Dr. W. H. Kenzie, Richland; Dr. R. G. Leland, Kalamazoo; Dr. R. A. Morter, Kalamazoo; Dr. N. W. Pinto, Kalamazoo; Dr. R. E. Weeks, Augusta; Dr. G. F. Willey, Kalamazoo; Dr. F. S. Collier, Vicksburg; Dr. D. H. Eaton, Kalamazoo; Dr. J. F. Berry, Kalamazoo; Dr. D. W. Crankshaw, Lawrence; Dr. N. D. Murphy, Bangor; Dr. John Stewart, Hartford; Dr. H. W. Wiley, South Haven; Dr. L. E. Wescott, Gobleville; Dr. W. R. Vaughn, Plainwell; Dr. O. D. Hudnutt, Otsego; Dr. E. D. Osmun, Allegan; Dr. R. P. Stark, Allegan; Dr. H. Stuck, Allegan; Dr. H. Whitney, Otsego; Dr. W. A. Singleton, Hickory Corners.

Kent County.

Dr. H. J. Beel, Grand Rapids; Dr. H. Blackburn, Grand Rapids; Dr. R. C. Breece, Ada; Dr. J. S. Brotherhood, Grand Rapids; Dr. F. A. Boet, Comstock Park; Dr. A. M. Campbell, Grand Rapids; Dr. L. H. Chamberlin, Grand Rapids; Dr. J. R. Coryell, Grand Rapids; Dr. B. R. Corbus, Grand Rapids; Dr. C. W. Deaver, Grand Rapids; Dr. P. J. DePree, Grand Rapids; Dr. H. W. Dingman, Grand Rapids; Dr. J. C. Foshee, Grand Rapids; Dr. C. M. Freeman, Ada; Dr. T. D. Gordon, Grand Rapids; Dr. H. A. Grube, Grand Rapids; Dr. J. T. Hodgen, Grand Rapids; Dr. J. N. Holcomb, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. C. Kenning, Grand Rapids; Dr. F. C. Kinsey, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. H. Muller, Grand Rapids; Dr. A. M. Martin, Grand Rapids; Dr. A. A. McNabb, Grand Rapids; Dr. A. G. McPherson, Grand Rapids; Dr. L. E. Sevey, Grand Rapids; Dr. R. R. Smith, Grand Rapids; Dr. A. B. Smith, Grand Rapids; Dr. F. N. Smith, Grand Rapids; Dr. R. E. Toms, Grand Rapids; Dr. R. T. Urquhart, Grand Rapids; Dr. P. Ver Meulen, Grand Rapids; Dr. W. E. Wilson, Grand Rapids; Dr. S. M. Wells, Grand Rapids; Dr. J. B. Whinnery, Grand Rapids; Dr. F. C. Warnshuis, Grand Rapids.

Livingston County.

Dr. Vern N. Richesen, Howell; Dr. William J. Rynearson, Parshallville.

Macomb County.

Dr. Henry G. Berry, Mt. Clemens; Dr. Harold A. Kirkham, Mt. Clemens; Dr. Charles A. Martin, Mt. Clemens; Dr. Harry F. Taylor, Mt. Clemens; Dr. Russell W. Ullrich, Mt. Clemens; Dr. Arthur J. Warren, Mt. Clemens; Dr. Robert M. Greenshields, Romeo; Dr. Edgar J. Miller, Romeo; Dr. Milton C. Smith, Romeo; Dr. C. B. Lockwood, Washington.

Manistee County.

Dr. Lee Lewis, Manistee; Dr. A. A. McKay, Manistee; Dr. H. McMullen, Manistee; Dr. W. Norconk, Bear Lake; Dr. L. Ramsdell, Manistee.

Marquette County.

Dr. I. Abrahamson, Negaunee; Dr. A. V. Braden, Ishpeming; Dr. H. T. Carriel, Marquette; Dr. W. B. Lunn, Marquette; Dr. C. J. Larson, Negaunee; Dr. I. Sicotte, Michigamme; Dr. L. L. Youngquist, Marquette.

Mecosta County.

Dr. Wm. T. Dodge, Big Rapids; Dr. Rolla G. Karshner, Big Rapids; Dr. Glen D. Ransom, Big Rapids; Dr. Gordon H. Yeo, Big Rapids.

Menominee County.

Dr. C. R. Elwood, Menominee; Dr. W. R. Hicks, Menominee; Dr. E. V. McComb, Menominee; Dr. H. T. Sethney, Menominee.

Midland County.

Dr. Chas. V. High, Sr., Coleman; Dr. John E. Heslop, Edenville; Dr. James H. Johnson, Midland; Dr. Rene J. St. Louis, Midland.

Monroe County.

Dr. Hugh R. Hildebrant, Dundee; Dr. Herbert W. Landon, Monroe; Dr. Frederick C. Thiede, Monroe.

Montcalm County.

Dr. Don V. Hargrove, Carson City; Dr. Albert S. Barr, Greenville; Dr. Albert J. Bower, Greenville; Dr. Noble W. Miller, Howard City; Dr. Lee E. Kelsey, Lakeview; Dr. Mortimer E. Danforth, Stanton.

Muskegon County.

Dr. C. M. Colignon, Muskegon; Dr. H. S. Cole, Whitehall; Dr. B. R. Eastman, Muskegon; Dr. W. L. Herick, Whitehall; Dr. F. W. Hannum, Muskegon; Dr. V. S. Laurin, Muskegon; Dr. F. N. Morford, Muskegon; Dr. E. S. Thornton, Muskegon.

Oakland County.

Dr. F. S. Bachelder, Pontiac; Dr. S. A. Butler, Pontiac; Dr. L. G. Campbell, Birmingham; Dr. L. A. Farnham, Pontiac; Dr. F. D. German, Franklin; Dr. G. W. MacKinnon, Oxford; Dr. E. E. Orton, Pontiac; Dr. G. P. Raynale, Birmingham.

Oceana County.

Dr. C. Day, Clinton; Dr. G. F. Lamb, Pentwater.

Ontonagon County.

Dr. E. J. Evans, Rockland; Dr. E. A. Florentine, Ewen; Dr. J. L. Kelliher, Phoenix; Dr. E. A. Linger, Rockland; Dr. D. L. Lutes, Victoria.

Otsego County.

Dr. Harry W. Knapp, Gaylord.

Ottawa County.

Dr. John J. Miller, Berlin; Dr. Harry Loeffers, Coopersville; Dr. Cornelius J. Addison, Grand Haven; Dr. George H. Thomas, Holland; Dr. William Westrate, Holland; Dr. Clayton A. White, Nunica; Dr. Joe DePree, Zeeland; Dr. W. C. Kools, Holland.

Saginaw County.

Dr. Harvey B. McCrory, Birch Run; Dr. George W. Peart, Burt; Dr. Geo. L. Alger, Saginaw; Dr. James D. Bruce, Saginaw; Dr. Benj. F. A. Crane, Saginaw; Dr. Walter A. DeFoe, Saginaw; Dr. Wm. F. English, Saginaw; Dr. Bernhard Friedlaender, Saginaw; Dr. Leon B. Harris, Saginaw; Dr. Matthew Kollig, Saginaw; Dr. Alexander R. McKinney, Saginaw; Dr. Henry J. Meyer, Saginaw; Dr. Wm. L. Miller, Saginaw; Dr. James L. Passmore, Saginaw; Dr. Norman J. Pike, Saginaw; Dr. Emil P. W. Richter, Saginaw; Dr. Bert B. Rowe, Saginaw; Dr. John T. Sample, Saginaw; Dr. Roy S. Watson, Saginaw; Dr. Arthur E. Leitch, Saginaw.

Sanilac County.

Dr. H. H. Angle, Snover; Dr. J. C. Webster, Peck; Dr. C. G. Woodhull, Decker.

Shiawassee County.

Dr. James A. Rowley, Durand; Dr. Hermon E. Boice, Byron; Dr. Robt. R. Fox, Byron; Dr. Thos. G. Amos, Henderson; Dr. Glenn T. Soule, Henderson; Dr. Alfred F. Arnold, Owosso; Dr. James J. Haviland, Owosso; Dr. Harold A. Hume, Owosso; Dr. Jesse O. Parker, Owosso; Dr. Geo. P. Sackrider, Owosso; Dr. Egerton T. Wilson, Owosso; Dr. William H. Dunham, Shaftsbury; Dr. Arden N. Howe, Vernon.

St. Clair County.

Dr. I. P. Bowden, Port Huron; Dr. F. V. Carney, St. Clair; Dr. G. M. Kesi, Port Huron; Dr. A. J. MacKenzie, Port Huron; Dr. D. W. Patterson, Blain; Dr. G. Waters, Memphis; Dr. W. G. Wight, Yale.

St. Joseph County.

Dr. John J. Kelley, Burr Oak; Dr. Wm. E. Doran, Colon; Dr. Arthur W. Scidmore, Three Rivers.

Tuscola County.

Dr. F. P. Bender, Caro; Dr. W. C. Garvin, Millington; Dr. I. D. McCoy, Cass City.

Washtenaw County.

Dr. James F. Breakey, Ann Arbor; Dr. H. B. Britton, Ypsilanti; Dr. R. B. Canfield, Ann Arbor; Dr. H. W. Emerson, Ann Arbor; Dr. N. B. Foster, Ann Arbor; Dr. C. George, Jr., Ann Arbor;

Dr. H. Malagan, Ann Arbor; Dr. Reuben Peterson, Ann Arbor; Dr. V. C. Vaughan, Ann Arbor; Dr. U. J. Wile, Ann Arbor.

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Original Articles

URETERAL STONE. DIAGNOSIS AND TREATMENT.*

P. L. THOMPSON, M.D.

Ureteral stones may form either in the kidney or kidney pelvis and pass down into the ureter or originate in the ureter above a stricture or any abnormality which interferes with free urinary flow through the ureter.

Etiologically, there are three factors to consider in the formation of stone: chemical characteristics of the urine; the mechanical hindrance to the urinary flow from various causes (chiefly, inflammatory stricture); and infection in kidney pelvis or ureter. Quite often one sees patients that repeatedly over a period of years pass small uric acid calculi; and in whose urine or urinary tract one is unable to demonstrate any other abnormalities. More and more is it coming to be recognized that stricture or any other mechanical interference to the urinary flow may be a determining factor in stone formation. The formation of small calculi, partially embedded in the wall of the ureter, above a stricture; the diameter of the stone being less than that of the ureter at the strictured point bears out this mechanical influence.

Of other conditions causing a mechanical hindrance to urinary flow besides true stricture are pressure from a periureteritis or inflammatory tumors in neighboring organs, new-growths or other mechanical pressure. Rovsing reports the interesting case of a stone forming in the lower ureter, due to pressure from a pessary. The frequency of stone formation in an obstructed bladder from prostatic hypertrophy is to a certain extent a comparable condition.

We know that infection of the urinary tract, either from organisms excreted by the kidney, by direct hematogenous metastasis or by transmural infection from neighboring organs; appendix, intestine or pelvic organs with the con-

sequent detritic products could easily form a nidus for calculi; the cast off material (composed of bacteria, blood, used-up leucocytes and exfoliated epithelial cells) acting as a foreign body. To one who has seen the rapid incrustation with urinary salts of foreign bodies in the bladder, this is readily appreciated. The frequent association of stone with both simple and tubercular inflammation of the urinary tract is a well recognized fact.

There are three anatomical points of narrowing in the ureteral tract in or above which stones are apt to lodge: namely, junction of kidney pelvis with upper ureter; at the brim of the true pelvis and entrance of the ureter in the bladder wall. These narrowings are due to two factors, an increase of the circular musculature at these points and the mechanical relations to other structures: the renal fascia folds over the renal-pelvic ureteral junction; there is a definite bend in the ureter at its crossing of the iliac vessels at the entrance of the true pelvis; and the bladder fold of fascia and musculature at the ureteral entrance to the bladder wall.

Besides these normal anatomical narrowings, we may have the lumen decreased in size from extraneous pressure or true stricture anywhere along the ureter. These conditions may be either congenital or acquired; the great majority being due to inflammation and its effects on the ureteral and periureteral tissues. The inflammatory strictures are much more common than is generally known; Hunner has reported over three hundred cases treated in the Johns Hopkins gynecological service from 1914 to 1917.

The congenital conditions which tend to occlusion of the ureter are either twists, valve formation, bands due to aberrant vessels or fascial folds or actual narrowing of the lumen. These congenital conditions are probably very rare. The acquired conditions causing interference with the urinary flow have either extrinsic or intrinsic causes. Of extrinsic agencies may be mentioned, pressure from inflammatory tumors or new-growths and traumatic injury

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to periureteral tissues. Of the intrinsic causes of obstruction, we have, mainly, inflammatory conditions of the ureter secondary to inflammation in other parts of the body; metastatic inflammation consequent to a primary focus in teeth, tonsils, etc. Of fifty cases of inflammatory stricture of the ureter, reported by Hunner, two were due to gonorrheal infection; three **were due to colon bacillus** and forty-five to metastatic infection of the ureteral wall; with the primary focus in the most of the cases in tonsils or teeth. Quite commonly, we have ureteral stricture due to a tubercular inflammation of the ureter secondary to a tubercular kidney.

New-growths of the ureter are very infrequent: hence, this is an extremely rare cause of obstruction to the urinary flow.

The diagnosis of ureteral stone, using modern methods, is comparatively easy. The clinical history and physical findings; examination of the catheterized urine; cystoscopy and ureteral catheterization; the use of the wax-tipped catheter in certain cases; the X-ray examination with the shadowgraph catheter in the ureter combined with ureterography are all of use in establishing the diagnosis. The stones which are not opaque, after ureterography, usually produce a shadow due to the deposit on the stone of the medium used in making the ureterogram. To visualize these non-opaque stones, a plate is made usually about two days after the injection of the opaque medium.

Clinically, in these cases, we have attacks of colic pain recurring at varying intervals and of varying intensity, centered along the urinary path and radiating to lumbar region or groin, penis or labium or both up and down in some cases. Occasionally, the pain may be localized without the stereotyped textbook radiation or the pain may spread over the entire abdomen. These attacks of pain may have associated with them, more or less and usually more; acute stomach and intestinal symptoms; nausea, vomiting, tympanites and stoppage of the fecal current. These last symptoms may be of such intensity as to overshadow the others and lead to the mistaken diagnosis of ileus. Numerous reports of such mistakes have been recorded. One of our cases illustrates this symptomatic course.

Urinary examination usually shows blood, some pus, increased epithelial debris and at times, small fragments of stone or stone-forming material: the blood, as a rule, being much increased during and immediately after an attack of colic.

The urinary findings may be identical with, and the clinical symptoms may be simulated by other pathological conditions of the urinary tract; namely, inflammatory stricture; tubercular lesions of kidney or kidney and ureter; neoplasms and even occasionally by congenital cystic kidney.

Pathological conditions, outside of the urinary tract may confuse, as when we find blood in the urine in appendicitis, which Kellogg Speed has shown to be not only possible but to occur quite frequently. Such a condition might be confused with a right ureteral calculus.

In women a stone in the lower ureter may at times be palpated through the vagina.

Aside from the stones in the extreme lower end of the ureter, cystoscopy alone, is of little value in the diagnosis as the bladder often shows little or no change in these cases.

Ureteral sounding may or may not detect the presence of a stone; the catheter may slip past the stone with no indication of its location. Obstruction to the advancement of the ureteral sound or catheter is not conclusive evidence of a stone, as we may have to deal with a stricture or the instrument may be caught in a fold or bend in the ureter so as to interfere with its farther advancement. Ureteral catheterization, necessary in making the ureterograms, is of service in demonstrating the complications of stone and the functional activity of each kidney, which is of vast importance in determining whether operative or nonoperative procedure is to be instituted.

The radiographic work is best done following the ureteral catheterization, with the catheters in situ. A thorough emptying of the intestinal canal, using castor oil or some other vegetable cathartic is a preliminary necessity for the radiographic work.

The whole urinary system down to bladder, both sides, should be examined by the X-ray to be sure that no other stones are present, besides the one suspected.

After the first plate is made, either with or without the shadowgraph catheter in the ureter, another set is taken following the introduction through the catheter of a varying amount of some opaque material (preferably 15 per cent. thorium nitrate sol.) to demonstrate pathological changes in the ureter and pelvis of the kidney, e. g. stricture of the ureter and hydro- or pyo-nephrosis.

The use of the wax-tipped catheter has a very limited field, and is of value only when positive scratch-marks are present, as a stone might be

so covered by soft material or so located as to fail to make the expected marks.

With an alkaline urine and good X-ray technic all ureteral stones will show; with an acid urine we may have stones which cast no shadow. These may be demonstrated after the opaque sol., used in making the ureterogram has been washed out by the flow of urine. Usually a plate is made two days following the ureterogram and the deposit on the previously non-opaque stone will now show a shadow.

The shadows apt to confuse in the ordinary X-ray examination, i. e. without the shadowgraph catheter or ureterography, are those due to phleboliths, calcification of the pelvic ligaments, plaques in blood-vessel walls, calcareous areas in lymph-glands and foreign bodies and fecoliths in intestine or appendix.

Ureteral calculi are usually oval-oblong in shape and irregular in outline; phleboliths are round with smooth outline; the shadows made by calcification of the pelvic ligaments, calcareous areas in glands or fecoliths and foreign bodies may be of any shape and indeterminate in outline.

Kretschmer has recently emphasized the value of making a double exposure, each at a different angle, with the shadowgraph catheter in the ureter. This exposure is made on one plate and serves to absolutely demonstrate the relation of the two shadows.

The shape and position of the shadow together with orientation by means of the ureterogram or opaque catheter serves to assure one of the condition.

The present day treatment of ureteral stone tends to the conservative side. When we consider that 70 to 80 per cent. of these stones will pass spontaneously; that perhaps 10 to 15 per cent. can be made to pass by certain conservative measures, one should hesitate about doing ureterotomy till other means had failed or the complications demanded relief to save the kidney function.

These conservative measures are the dislodging of the stone by means of the sound, the injection of sterile oil both above and below the site of the stone and the stretching of the ureter below the stone with bougies or ureteral dilator. These measures are repeated according to conditions. The use of sterile oil helps to distend the ureter and lubricate the tract. The use of gradually increased sizes of ureteral bougies aid in enlarging the ureter below the stone and both probably set up increased peris-

talsis of the ureter which may be the main factor in the success of the method.

With this method it may be necessary to slit the ureteral meatus to facilitate the passage of stone from ureter to bladder.

These procedures are usually carried out after preliminary use of cocaine, injected into the ureter.

Combined with this conservative treatment, a series of X-ray plates should be made to show whether or not the stone is changing its position.

In some of the cases, ureterolithotomy may



Fig. 1. To show shadow of stone, indicated by arrow.

be the only means of relieving the condition, but it should not be done unless other (conservative) measures have failed or the complications are such as demand early relief to conserve kidney function.

The cases for which ureterolithotomy is most often necessary are those in which the stones are of large size and those embedded in the ureteral wall.

CASE 1. June 12, 1918, J. M., age 42, American; married; farmer. Family and previous personal history, negative.

While working, a year and a half ago, he was taken with a sudden, sharp pain in the right

lower abdomen; this pain radiated to right inguinal region and penis and toward the navel. He was nauseated but did not vomit. He had some fever; no macroscopic haematuria; no jaundice. He was sore in the right lower abdomen for about a week. This condition gradually righted itself and he had no more symptoms for eleven weeks when he had another similar attack. Since then he has had four more; the last one, two weeks ago. He states that he has seen no blood in his urine during or after any of the attacks.

General examination negative. Wassermann negative. Blood; white and red count and hemoglobin, normal. Urine; negative, except a few blood cells. Slight tenderness over right costovertebral angle. Cystoscopic; slight edema about the right ureteral meatus, otherwise negative. Left ureteral catheter introduced to the kidney pelvis with apparently normal urinary output. Right catheter met with an obstruction eighteen centimeters from the meatus. X-ray plate showed a shadow opposite the third lumbar vertebra in contact with the tip of the shadowgraph catheter. An unsuccessful attempt was made to pass the catheter higher after which, fifteen cc. of sterile oil was injected into the right ureter. The patient had a chill, fever and pain for the eighteen hours following.

On June 20, (eight days later) a number five catheter was introduced 24 cm. in the right ureter. An X-ray plate showed the shadow in the lower sacral region. Twenty cc. of oil was injected as the catheter was being withdrawn from the ureter. After this injection he had quite a severe reaction; tenderness over the right kidney and ureter; chills and fever and blood and pus in the urine for his stay in the hospital, (five days). Due to the severe reaction, a period of sixteen days elapsed until the patient returned for treatment. An X-ray plate made on July 6th, showed the stone well down on the pelvic floor. On this date, numbers eight and ten bougies were introduced into the right ureteral meatus and 20 cc. of oil was injected through the catheter above the stone. This was followed by moderately severe pain, more or less continuous for five days when on the 11th he passed an oval irregular, mixed stone, roughly three-sixteenths by three-eighths inches in size.

CASE 2. C. N., Swede, age 37, married, electrical worker. One maternal uncle died of pulmonary tuberculosis, the family history is otherwise negative.

Personal; always well till two years ago, when he had an attack of severe, colicky pain in the lower left abdominal quadrant. The attack came on in the evening and was accompanied by nausea, vomiting and distention of the abdomen with marked constipation. Always two or three days without a bowel movement with each attack. The pain has always been localized in the lower left quadrant without radiation.

Attacks similar, but varying in severity and length, but always accompanied by vomiting and distention have occurred at intervals to



Fig. II. To show stone and shadow of ureter. Arrow mark.

date. Patient states he has had about a dozen; the longest period of freedom from pain was three months; last attack ten days ago. He always needs morphine for relief. He thinks his attacks are due to indigestion as he overeats when feeling well, has some sour stomach and belches gas between his attacks of sickness. He has never noticed blood in the urine during or after the attacks.

General examination, including Wassermann, stool and three different urinary examinations all negative. Regional examination negative.

After intestinal emptying, an X-ray examination showed a dense shadow in the left side of the pelvis at about the level of the second sacral foramen of such shape, size and position that it could well be a ureteral stone.

Three days later a cystoscopic examination revealed a normal appearing bladder with normal peristaltic action of both ureters. The left ureteral catheter (size 6) met with an obstruction 11 cm. from the ureteral meatus but by manipulation was made to pass to the kidney pelvis. A uretera-pyelogram showed only a slight dilation of pelvis and ureter above the stone and a narrowing of the ureter below the stone. After an hour 15 cc. of oil was injected in the ureter above the stone. This set up one of his attacks of pain which lasted three days. At the end of a ten day period an X-ray plate showed no change in the position of the stone and 20 cc. of oil was injected. Two weeks following this, another X-ray examination show-



Fig. III. Shows kidney, pelvis and upper ureter.

ing the stone in the same position, a left rectus (Battle) incision was made down to the peritoneum; this bluntly separated down to the left ureter which was opened above the pelvic brim, the stone milked upward and removed, extraperitoneally. The ureter was sounded and stretched with a No. 9 bougie from above; the incision repaired with 00 chromic gut; a small cigarette drain was led out of the incision from the cut in the ureter and this was left in 24 hours. No drainage. Uncomplicated recovery. The stone removed was a mixed oxalate, oblong, one-fourth by one-half inches in size.

CASE 3. April 2, 1918. C. J., age 42, sedentary occupation. Family history, negative; personal history, two attacks of appendicitis in 1911; appendix removed in 1912.

While on a fishing trip in May, 1917, he had

an attack of pain in the right lower abdominal quadrant. This lasted only about an hour, and he noticed no particular tenderness afterward. History otherwise negative. One week ago, while about, he was taken with a very intense, colicky right-sided, lower abdominal pain which radiated to the penis and right lumbar region. The character of the pain gradually changed to a constant severe ache and tenderness. The pain was accompanied by nausea and vomiting at the beginning of the attack.

General examination: Temperature, 101 F.; pulse, 91; white cell count, 13,000; Wassermann negative. Urine had a moderate amount of pus and blood. No visible hematuria, otherwise negative.

Examination shows the right side of the abdomen, especially the umbilical right semicircle, to be very sensitive. Fist percussion of the left costovertebral angle, negative; on the right side, it produces a very intense pain, radiating downward. Percussion dullness increased in the right lumbar region.

Cystoscopic examination showed some redness and edema about the right ureteral meatus; otherwise negative. Catheter in the right ureter met an obstruction 9 cm. up; but by manipulation was made to pass to the kidney pelvis. Fifty-four cc. of cloudy urine ran by continuous drop from this side, showing very clearly the pyonephrosis.

X-ray plate showed a small, round-oval, smooth shadow at the lower level of the right sacro-iliac joint. Injection of 40 cc. of thorium solution covered this shadow and demonstrated graphically the stricture below the stone and dilatation of ureter and kidney pelvis above the stone. Figure 1 is the shadow of the stone; Fig. 2 shows the stricture in the ureter and the dilatation of the ureter in the true pelvis with the stone shadow covered; and Fig. 3 shows the dilated condition of upper ureter and kidney pelvis.

Catheterization of the other side showed a normal peristaltic urinary output, and the urine collected was normal.

Functional: Phthalein used, intravenous injection; left side, 1st hour, 30 per cent; 2nd hour, 25 per cent. Dye appeared in 2 minutes.

Right side, 1st hour, 9 per cent; 2nd hour, 15 per cent. Dye appeared after 18 minutes.

X-ray examination of the rest of the urinary tracts, both sides gave no evidence of other stones.

Only one injection of oil was given in this case as a plate made later showed no change in

the position of the stone and as the complicating conditions seemed of too much consequence to delay relief.

On April 12, 1918, an oblique incision was made above and parallel to Pouparts ligament, the ureter opened at the brim of the pelvis and the stone removed extraperitoneally. The stone was embedded in the wall of the ureter and adherent to it. Below the stone was a strictured place in the ureter, demonstrated by bougies passed through the incision in the ureter after removal of the stone. The incision (in ureter) was repaired with fine chromic gut, with a cigarette drain leading out. Urine drained along the track for ten days and then the incision closed on removal of the drain and farther convalescence was uninterrupted; the patient leaving the hospital twenty-six days after operation and has had no return of any urinary symptoms.

ABSTRACT OF PAPER ON FRACTURES AND THE APPLICATION OF ARMY SPLINTS.

CAPT. MERCER.

Captain Mercer's talk was largely one of demonstration and it is impossible to abstract it to any degree of satisfaction. It was a very important subject and one handled in a way which every man dealing with fractures should have heard.

Various splints as used in the army were demonstrated. At first the Army used various splints, then limited itself to the standard splints. America only uses seven kinds, two or three of these are capable of many modifications. The field coaptation splint is capable of being broken along several lines and may be moulded. Every man in the ambulance corps was taught the use of these splints. All of the splints used in the Army are adaptable to civil life.

The Jones foot splint was used more in the English army, but not so much in the American army. The Jones hand splint can be moulded as was demonstrated. The Jones humerus extension splint fits over the body as demonstrated. It is necessary to abduct, externally rotate and approximate the lower fragments to the upper as demonstrated. Plaster may be used with these splints. The Hodgen splint is covered with canvas and can be variously modified. Considers the Thomas splint one of importance. The pressure is brought on the tuberosity of the ischium and demonstrated how it should

be applied. Instead of using adhesive plaster the following formula was recommended in its place: Resin 50 per cent., Alcohol 50 per cent., Benzine (pure) 25 per cent., Venice turpentine 5 per cent. Also uses a short Thomas splint as demonstrated. They are light, comfortable and dressings may be done with them in place.

In seven cases of patellar fracture used the expectant treatment with good results, no operations.

The various phases connected with flat foot were discussed and demonstrated. One definition of flat foot given was: 'flattening of the arch with twisting of the foot.' Raises the inner border of the shoe one-fourth inch, that raises and throws the weight bearing line back where it should go. Illustrated the old Thomas heel which he said was used as an advertising scheme by some.

In treating fractures he used one-fourth gr. morphine, then after a few minutes put them under screen and fracture was then reduced without the necessity of a general anesthetic.

Demonstrated that one reason why sprains were so long in healing, was because small spicula of bone broken off with the ligament.

It is hard to say which gives the best results in fracture of the patella, expectant treatment or operative. Uses expectant treatment largely.

Capt. Mercer demonstrated that in many cases often where anatomical results were apparently not what one would like, yet functional results were good, this often is most important to the patient.

DISCUSSION.

Capt. Shackleton: Capt. Mercer is a man after my own heart. Speaks in terms of function. He does not make a compound fracture out of a simple fracture. Has been in orthopedic service, not from choice, but from necessity. Lovetts three points to be considered in orthopedic surgery are: What are you doing, is it worth while, and are you doing it? Formerly a fracture of the patella meant operation, now does it less. Related cases showing result of fibrous union of the patella which proved satisfactory. We should realize that the X-ray shows up the doctor in a bad light, and the shyster lawyer makes use of the exaggeration of the X-ray. When we analyze in terms of function rather than terms of X-ray we get a different view of fractures entirely. Discussed the various shoes demonstrated by Capt. Mercer. He agrees with Capt. Mercer in regard to the metatarsal wedge. Believes results can be brought about by felt pad and inner sole, Thomas heel is of great aid in correction. Position we get is that of bridge on the inner side of the foot, making the patient toe in.

Standard in military splints will be of great value in civil life. The Thomas splint cannot be

improved. Demonstrated how they held for long periods of time when applied on the battle fields. They are simple in application and anyone can apply them effectively. The only one not of practical use is the airplane splint. It gives incorrect posture and will gradually crawl out of position. Described another splint given by Capt. Clare, which is more satisfactory. Work of the medical department abroad was excellent. Most of the fracture cases coming back show excellent work.

Did not operate on ununited fractures for three months, then if there was no evidence of tenderness or other evidence of infection, was massaged for three days then anti-tetanus serum given and they were operated.

Dr. Dan H. Eaton: Used the regular splints which Cap. Mercer has demonstrated in the 83rd Division. Each man in the sanitary detachment had several weeks training in their use, and then had to pass an examination. The men who handled these fractures did good work. There were many cases of compound fracture. In the French hospitals they used plaster of Paris, which was left on for a long time, some as long as 16 or 17 weeks; some of these when received were in frightful condition. They were put in Thomas or Hodgen splints, used Dakin's solution and it was surprising how the wounds healed up, by the use of splints they were easy to irrigate and dress.

Enjoyed Capt. Mercer's paper very much.

Capt. Shackleton: The Thomas splint is very comfortable, area of pressure only about the size of a dollar.

Dr. Goodrich: Asked if the Thomas splint is used in fracture of the hip. Saw one used in Chicago.

Dr. L. H. Stewart: Has had few fractures. Never attempted to wire any sort of compound fracture, uses extension.

Dr. Boys: In patellar fractures it has been his practice to wait a few days to be sure the hemorrhage has been stopped and then do the open operation with suture of the fascia with catgut. This has been very satisfactory in a limited number of cases which he has had. However, we should not be too ready to draw final conclusions from a limited number of cases.

He then reported case of fracture of the humerus, combined with a very open lacerated wound over the inner half of the elbow joint. The wound was so extensive that this was treated first by debridement, almost entirely disregarding the fracture until ten days later when the wound was healed. When attention was directed to the fracture it was found to be in satisfactory position, so that nothing further was necessary in the way of reduction. Good recovery was made in all respects in this case.

He expressed the belief that the average civil hospital was not sufficiently equipped with such splints as the doctor has described and states that these should be always ready and that perhaps the reason they were not was due to the infrequency of fractures as they occur in the hands of any physician in civil practice.

Lieut. Crutchfield: Subject has been well covered. In treatment of fractures first immobilize, X-ray, give morphine and reduce under the screen,

then screen again after splint is applied. Very few cases require general anesthetic, less than 5 per cent. of them do, as most of them are received early. Every case of fracture is a law unto itself. One rule will not apply to all fractures. Remember the mechanics of the part, relax and rest. The bones should be put in apposition, the splint applied and then studied under the X-ray at intervals. It is not the anatomical results, but the functional results that we are looking for.

Dr. Boys asked Lieut. Crutchfield, if he gave morphine to young children.

Lieut. Crutchfield: Makes exception in children, gives them general anesthetic because of fright. Cannot reduce fracture under the screen in every child.

Dr. Tomkinson: About six years ago broke os calcis of left heel, had flat foot as result. Tried various methods, then started to toe in, which gave him good results.

Capt. Mercer: Glad to hear about the case of fracture of os calcis, and the toeing in, which brings the line of weight to its proper relation. All flat feet are abducted feet. Tibialis anticus muscle is put out of use and when we toe in it brings it back. If we will stroke the muscle in and about the joints 10 or 15 times, they will often relax and they can be reduced without anesthetic.

These splints which have been demonstrated can be adapted to any case. In the A. M. A. Journal often find advertisements of some of the pneumatic ambulatory splints. A new army manual of splints is just off the press and gives all these splints and appliances.

ABSTRACT OF PAPER ON REMARKS ON FRACTURES, JOINT INFECTIONS AND PRIMARY AND SECONDARY CLOSURE OF WOUNDS.

ANGUS McLEAN, M.D.

DETROIT, MICH.

War has broadened surgery. Different angles have been seen by men of the different branches of service, but yet reports of all agree. Impressions from a base hospital of 3,000 beds compared with ordinary civil hospitals give one good advantages for drawing conclusions.

Four-fifths of the cases were battle casualties. The preponderance of the different wounds varied according to the nature of the engagement. Did not look upon machine gun or bullet wounds, that did not hit the ground as seriously as they did the shell or shrapnel which often took a piece of earth with it. Those of the medical profession who went into the service early were lucky as they had opportunity to see all phases from the trenches to the Base Hospital. If there is one thing that did more than others for humanity it was the X-ray. Some

cases had a half dozen pieces of shrapnel embedded in the body. The surgeon did not care to touch these cases without the X-ray, which gave exact knowledge of the location. The X-ray men were a devoted crowd and were tireless.

The cases came in lots of three or four hundred on the hospital trains and the men worked long hours. X-ray was beneficial, especially in the chest where projectiles could not be located without its assistance. It was found that it was not so serious to remove foreign bodies from the heart as had been supposed. Has seen foreign bodies removed from the muscle of the heart.

Vaccines.—Typhoid and para-typhoid were of great service. There were no deaths from typhoid, though three cases were so diagnosed. Tetanus in previous wars has been very serious. In this war it was avoided by the use of anti-tetanic serum. The first doctor on the case gave anti-tetanic serum, which was marked on the patient's card, as to time and amount, he then cared for the wounds. Out of 20,000 battle casualties, saw no deaths from lock-jaw or tetanus, this shows what can be done.

One case of death from small-pox was reported in 1917, but investigation showed this case had not been vaccinated.

Surgical Side.—After arrival saw what other nations had done. Treatment of wounds they get early, they cut out all of the injured tissue or suspicious tissue. In high explosives, not only the tissue injured directly, but indirectly by sudden shock, even though it looked good if slightly darkened, cut down to the pink tissue. Tissue which had been injured became necrotic. Debridement was first used by the Belgians the first thought was to get primary union. This was changed and they were ordered never to close a wound but to use dressings and solutions. All wounds of the last six months had secondary closure. For six or eight days a culture was taken each day until they got a negative report then the wound was freshened gently and closed, sometimes drainage was used. Good results came from this method. Dakin's solution was used for some time, then surgeons began to prefer some other method because of so many deaths from secondary hemorrhage. The force of the bullet would cut off the blood supply and Dakin's solution not only destroys bacteria but lymph, in about eight or ten days had hemorrhage from giving way of an artery. The Carroll-Dakin solution disintegrates blood

clot. The solution is good if not close to a blood clot or vessel.

Shock after the first hemorrhage can be resuscitated, but not after the second hemorrhage. They had shock teams who transfused with blood or solutions similar to normal salt with some gum Arabic. Without the gum Arabic the solution was soon lost, and results were not so lasting. The gum Arabic slowed up absorption. Evacuation hospitals also had shock wards. Patients were transfused and then sent to the operating room. The same man ten days later, with the same injection will not last more than an hour after secondary hemorrhage.

Treatment of Fractures.—Universally used the Thomas splint. Plates did not give satisfactory results. Compound fracture of the thigh usually was infected, dirt, etc., getting into the tissue. They were tedious cases. No plaster of Paris was used. Had set of splints for different parts of the body. Takes thousands of cases to draw correct conclusions from. Not much learned in civil life of injuries to the head. There were two classes; severe which died within a few hours, those not so severe, which hung on for a few days and usually recovered.

Fractures of the jaw gave very satisfactory results from treatment if any jaw was left at all, brought together and used the intra-dental splint after an impression, one upper and one lower, they united quickly. The plastic part of the treatment usually took three or four operations, no wiring was done. Destruction of the mucous membranes was a serious part, patients drooled excessively often so that they had to wear a towel. In chest wounds formerly negative and positive pressure used to be considered and used to operate in cabinets in order to maintain proper atmospheric pressure, now operate any time and place, the same as for other operations. When they close the parietal pleura it is necessary to make it tight and not leave fistula. One thing that has been learned is the freedom with which we can expose the lung and handle as other parts.

Infected Joints.—We used to think we never could drain a joint and fix it. These are now opened up and drained, but not fixed with splints. They were moved every half hour or hour and the results have been wonderful.

Three subjects of which we have learned most are treatment of fractures, treatment of injuries to chest and infected joints.

This was illustrated with lantern slides.

DISCUSSION.

Dr. Boys: Always pleased to hear Dr. McLean, especially instructive in his talk. His subject has been different than we have heard discussed before, he has given us more important points regarding injuries to the chest and fractures.

In civil hospitals we have too little apparatus for the treatment of fractures. Perhaps other things in the hospital have been allowed to crowd this class of patients out so far as preparation is concerned. Reports of medical officers ought to stir us to see that these things are at hand.

Reported a case of malignancy in which he removed two inches of two ribs. The lung was collapsed, pericardium came up into the wound. There was little reaction to manipulation of the contents of the chest. Some blood escaped into the pleural cavity, this was removed and the wound was closed and made air-tight. Did not remove the air, but in a few days the lung expanded to normal conditions. It is rational to explore a chest cavity when necessary. One would think the susceptibility of the chest cavity to infection would contra-indicate it, but war reports seem to disprove this.

Dr. A. W. Crane: Would like to hear Dr. McLean tell us what reaction on civil life the medical experiences of the army will have, and what equipment would be placed in hospitals.

Dr. Boys: Asked if the effect of medical officers being forced to keep records will react on the service at home.

Dr. McLean: Each hospital should be equipped with a set of splints such as are used in the army. The method of treatment of fractures in hospitals will have to undergo revolution.

Never saw an infection of gas bacillus of the lung. Saw two cases of infection of the gas bacillus in parietal pleura which entered from the outside. These were opened up and made good recovery.

Attempts are being made to standardize hospitals. The Field card system is very efficient. Each man tells briefly what he has done. The Surgeon General's office has gathered up material for medical history of the war. A system of questionnaires is being worked out, doing away with so much paper.

CIRCULATORY DISEASES OF THE BRAIN WITH A REPORT OF 351 CASES OF ARTERIO-SCLEROSIS.*

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Definite structural changes taking place in the blood vessels of the body produce a diseased condition characterized by certain symptoms with which we are all familiar. When the blood vessels of the brain are affected we have mental deterioration to such an extent that arterio-sclerotic brain disease has become a very large group and constitutes from 10 to 15

per cent. of the cases in hospitals for the insane. During the past four years 351 cases were so diagnosed at the Kalamazoo State Hospital and it might be interesting to review the characteristics of this disease and briefly report the chief symptoms found in this list of cases. We will first consider briefly the anatomy of the cerebral circulation.

The head and its contents are supplied with blood by way of the external and internal carotid arteries and the vertebral arteries, the latter uniting to form the basilar artery. The external carotid supplies the outside of the head sending into the interior of the cranium only meningeal branches. The middle meningeal artery is the most important because it is the largest, is most direct in its communication between the outside and inside of the skull and its area of distribution is related to parts of the brain of great functional importance.

The communication of the branches of the internal carotid in front and the basilar behind forms at the base of the brain remarkable anastomosis known as the "circle of Willis."

It is a matter of both clinical and experimental observation that the brain is very susceptible to the slightest change in its circulation. Its functional integrity is dependent upon the quality and quantity of blood flowing through it, upon the blood pressure and upon the rate of the flow.

Cerebral anaemia may be caused by local or general pathological conditions. An embolus for example causes local anemia and any cachectic state may be accompanied by deficient blood supply and produce a secondary anemia of the brain. A severe hemorrhage in some other part of the body may produce a symptomatic anemia. The coma of hemorrhagic apoplexy is believed to be due to the sudden anemia of the cortex caused by the local loss of blood. Also in sudden and profound hemorrhages from the lungs, stomach, bowels or uterus, syncope and other signs of severe cerebral anemia are often observed. The sudden withdrawal of ascitic fluid, precipitate labor, abrupt disturbance of the heart action, or nervous collapse may suddenly diminish the amount of blood flowing to the brain.

In cases of cerebral anemia the brain substance looks pale, the grey matter whiter than usual and its vascularity diminished. The cerebro-spinal fluid is usually increased in amount.

Microscopically the nerve cells are changed and appear granular. Crile has studied very

*Read before the Kalamazoo Academy of Medicine, April 1, 1919.

exhaustively in animals the appearance and characteristics of nerve tissue in cases of cerebral anemia following shock, fright and emotional disturbances.

The main symptom produced by this anemic condition in the brain is syncope. The patient suddenly or gradually experiences a sinking sensation the head feels light, spots float before the eyes, the vision is blurred, he feels dizzy and weak, his heart flutters, ears buzz and there may be nausea and vomiting. He falls, his eyes are closed and he becomes unconscious. After a few minutes he regains consciousness, but is somewhat confused and feels sleepy. The pupils are as a rule at first contracted and later dilated; the pulse is rapid and weak, respiration labored, the skin cold and moist. The reflexes are frequently abolished and the patient may die in a convulsion.

Mild cases of cerebral anemia are generally favorable, but cases due to heart lesions, exhaustive hemorrhages and other grave conditions with coma are often fatal. Serious signs are convulsions and marked dilatation of the pupils.

Cerebral hyperemia occurs in plethoric persons with cardiac over-activity and cardiac enlargement. It occurs in the beginning of fevers and in cases of extreme nervous irritability, such as delirium, acute maniacal states, neurasthenia, hysteria and exophthalmic goitre. Any mechanical obstruction to the return flow of blood from the head will cause passive cerebral congestion. This condition is seen in tumors of the neck, mediastinal growths, aortic aneurysms, pulmonary emphysema and in mitral stenosis. Tight bands and collars, severe coughing or sneezing and other severe muscular efforts may cause a temporary congestion and increase the symptoms already produced by other factors. In some cases the face flushes and feels hot, the conjunctiva is injected and there is headache, dizziness and perhaps nausea.

Prophylaxis is important. Stimulants, over exertion, mental excitement, dissipation and excesses of all kinds should be avoided. Thorough catharsis, ice cap to head, feet placed in hot water are indicated in this condition. Venesection may be advised if the heart action and general strength do not contra-indicate it.

Clinically there occur several varieties of arterio sclerotic disorders which are determined by the localization of the diseased blood vessels and the severity and progress of the disease. The mental deterioration which is associated with vascular lesions, such as hemorrhage and

cerebral softening is frequently observed. The causes which influence the occurrence of arterio-sclerosis in the body affect the cerebral vessels also. The blood vessels of the brain are peculiarly liable to changes and according to Wada they differ from the vessels of the body by having fewer elastic fibers and a poorly developed media. The vessels of the brain are often subjected to unusual strains which come from excessive nervous functioning. Usually cerebral arterio-sclerosis is a part of general arteriosclerosis of the vessels of the body with very little change in the vessels of the brain. The reverse of this is frequently true as is so frequently shown in post mortem examinations.

Arterio-sclerosis is as a rule a disease of advanced life, very few cases being seen as early as 40. In these early cases the disease is usually due to alcohol or syphilis. Individual predisposition plays an important part in its occurrence and a family history of hardening of the arteries is very common.

In the process of ageing of the body the cerebral arteries seem to be more affected than the other vessels. Important factors are alcohol syphilis, chronic lead poisoning, infectious diseases, rheumatism, severe mental strain and business worries. Thayer and Fabian state that "between the ages of 40 and 50 the media reaches its maximum thickness and then there is increase in connective tissue. After the fifth decade there is a progressive increase in the thickness of the intima. Calcification in the deep layers of the intima becomes more common with age, four out of five cases in the eighth and ninth decade showing this change."

Kiset calls attention to the enlargement of cardiac dullness as a sign of impending cerebral hemorrhage in corpulent persons past 50, especially when associated with functional bowel disturbance. Long before the arteries feel hard or show a tortuous course, a permanently high blood pressure reveals the tendency to arterio-sclerosis with resulting over work on the heart. Early signs are headache, transient vertigo, forgetfulness, especially for names and figures, slight motor disturbances, chilliness of the hands and feet, a sensation of heat on top of the head or a burning patch on the skin.

As a result of these pathological changes in the arteries there may occur focal softenings in the brain or miliary hemorrhages. The vessel walls are weakened by the degeneration and miliary aneurysms are formed. The rupture of these is the most important cause of spontaneous cerebral hemorrhage. The clinical symp-

toms of arterial degeneration are those of a progressive lessening of the mental ability, especially of the memory, with transitory and permanent neurological disturbances. The onset is usually gradual and even in those cases in which the disturbance seems to date from an apoplectic attack, it is possible to detect some evidence of mental impairment for varying periods before the attack. Intellectual workers are often able to appreciate that the mind works less effectively and a greater effort is required than usual to do their accustomed mental work. Mental fatigue, forgetfulness, disturbance of sleep, or abnormal drowsiness may be among the first symptoms. Increased emotional disturbances, as crying without adequate cause, also there is irritability and suspiciousness. Occasionally attacks of disturbed consciousness occur, and loss of the sense of direction and location. These patients are easily bewildered and confused. Delusions of suspicion and persecution may develop due to their inability to properly interpret their sensations and the motives of others. Headaches, sensation of pressure in the occipital region are frequent. These bear a close relation to high blood pressure and are made worse by actions which cause cerebral hyperemia. Dizziness is a common symptom. This may be only moderate in degree, or may be sufficiently severe to cause the patient to stumble and fall. Attacks of an apoplectic or epileptiform nature frequently occur. The recovery from these may be complete but it is more usual for some slight disturbance of motility or sensation to permanently persist. Transitory sensory disturbances are frequent, such as numbness, prickling and tingling of extremities. Speech is frequently interfered with and there are always aphasic symptoms when the speech center in Brocha's area is irritated. Cardio-renal symptoms practically always accompany this disease. The heart is enlarged and the valves thickened and incompetent, especially the aortic. The urine often shows albumin and casts. The blood pressure is commonly increased, ranging from 150 to 225 or more mm.

Pulse pressure as a rule is high. Cerebral spinal fluid shows no constant changes that are diagnostic. In many instances the albumin content is increased. In cases where syphilis is a factor there will be an increased number of lymphocytes and the Lange colloidal gold reaction will show a leuetic curve. Such cases are usually classified as arterio-sclerosis, endarteritic type, which is in reality, cerebral syphilis.

The proper management of an unconscious attack in an arteriosclerotic person depends whether the stroke is due to hemorrhage, embolism or thrombotic obstruction. In a large number of cases it is impossible to tell because of the overlapping of symptoms. Coma and paralysis are the two chief symptoms that always point to a serious intracranial lesion. In hemorrhage the onset is sudden or with very slight prodromes and the coma comes on almost immediately. The coma is usually deep and precedes the paralysis. The paralysis at first seems general involving all the limbs but soon recedes from one side. The pupils, contracted at first soon become dilated, unequal and irresponsive to light. The face flushes the cheeks puff out, breathing is stertorous and the pulse rapid and full. These are all contributory signs of the picture of cerebral hemorrhage. Hemorrhage most frequently takes place in the branches of the lenticulo striate arteries supplying the internal capsule, caudate nucleus, lenticular nucleus and optic thalamus. This explains why the symptoms are combined in type, e. g. arm and leg; arm, leg and face; arm, leg, face with sensory symptoms and aphasic complications.

The typical cases of cerebral hemorrhage that come on abruptly and are in a state of profound coma and paralysis, must be differentiated from the coma of uremia, alcoholism, opium poisoning, diabetic coma, epilepsy and hysteria. In uremic coma there is of course no hemiplegia and the pupils are not unequal. The coma comes on gradually and may be preceded by blindness, convulsions and vomiting. If a urine analysis has been made of course the diagnosis is evident. In diabetic coma the breath has the peculiar acetone odor and urinalysis will establish the diagnosis.

In opium poisoning the pupils are equal and strongly contracted, the respiration is slow and there is no true paralysis.

Perhaps the greatest difficulty is when attempt is made to distinguish hemorrhage from embolic or thrombotic apoplexy and in some cases it is impossible to differentiate. The history of the case, its mode of onset and its associated conditions are most important.

Cerebral embolism usually occurs earlier in life than hemorrhage and it is usually associated with heart disease, rheumatism, syphilis or the puerperium. The coma comes on gradually and is less deep than in hemorrhage. The pulse and heart action in embolism are weak, while in hemorrhage they are strong and violent. The

paralysis comes on more gradually, is less complete, is associated with convulsive movements and is more rigid and less widely distributed in embolic obstruction than in hemorrhagic apoplexy.

It is much more difficult to differentiate hemorrhage from thrombosis, particularly as both occur in old age and are dependent upon similar diseased states of the blood vessels. Prodromata such as slight spells of confusion, irritability, paresthesia and dizziness often for days or weeks precede the coma.

The prognosis of these conditions should always be guarded, especially in the comatose stage and until after the temperature is normal. Cerebral hemorrhage is more immediately fatal than either thrombosis or embolism. Deepening coma, Cheyne-Stokes respiration, muscular jerking, convulsions, blood pressure above 230 or below 90, marked rise in temperature are the usual serious signs. After recovery from the coma, restlessness, delirium, trophic disturbances and continued temperature indicate a grave prognosis and probably death in two or three weeks. A favorable prognosis may be held out if the coma clears up early and at the end of the first week there has been no fever.

During the past four years there were 351 cases of Cerebral Arterio-sclerosis admitted to the Kalamazoo State Hospital, 248 men and 196 women. The earliest age of onset was 43 years while the latest was 89 years. The average age of onset being 70.2 years. In 16 per cent. of these cases there was a history of apoplexy and paralysis in the family. Of the 248 men in this group 169 or 68 per cent. used alcohol in some form, while only six women were occasional moderate drinkers. The mental symptoms were not at all constant. The most characteristic symptoms were those of gradually progressive mental deterioration, associated with the so-called "patchy memory." Insight into their mental condition was nearly always lacking, judgment poor and in many cases they were in constant conflict with their environment, showing delusions of persecution, restlessness and mental confusion. In many cases the psychosis was distinctly that of senile dementia but the presence of focal lesions in the nervous system and neurological signs was sufficient to place them in the arteriosclerotic group. The neurological findings were varied. Hemiplegia was present in 44 of the 351 cases, knee jerks equal and diminished in twenty-eight cases, absent knee jerks in thirteen cases; equal and exaggerated in seventy-five cases. The tongue

deviated from the median line in sixty-nine cases and there was facial asymmetry in ninety-one cases. There were twenty-four cases of aphasia. Pupillary changes, consisting of irregularities in size were found in sixty-one cases, irregularities in outline in seventy-eight cases, sluggish reaction to light in 126 cases and stationary pupils in eighteen cases. All but eighteen cases complained at times of vertigo. The systolic blood pressure varied from 130 mm. to 250 mm. The average was 175 mm. The average diastolic pressure was 100.6.

Post mortem examination was done on 42 cases, the pathological diagnosis confirming the clinical in all cases but three, in which a diagnosis of senile dementia was made. Gross cortical softenings were found in thirty cases, brain hemorrhage in seven cases, sclerosis of blood vessels in forty-one cases, aphasic lesions in six cases. Cord lesions were found in eleven of the cords examined. Practically all of these cases showed thickening and tortuosity of the coronary arteries, hypertrophy of the left ventricle with cardiac enlargement, stiffness of the aortic leaflets, patches of thickening on aortic walls with dilatation of the aortic arch. Chronic diffuse nephritis, cirrhosis of liver, fibrosis of spleen and pancreas, atrophy of brain tissue was usually present.

In these forty-two cases, broncho-pneumonia was present in eleven cases, lobar pneumonia in seven, and pulmonary tuberculosis in one, abscess of lung in one.

Treatment.—While the prognosis for cure is bad, it is possible to arrest the progress of the disorder by a carefully regulated mode of life and diet accompanied by medical agents as symptoms indicate. Arterio-sclerosis is not an acute disturbance but is the result of harmful factors which have exerted their influence over a long period of time. The liability to arterio-sclerosis is lessened in those who lead an even life, unburdened by worries and unusual emotional strain, moderate in habits of eating and drinking, and who are free from the influence of alcohol and syphilis. Cerebral arterio-sclerosis is essentially a disease of advanced years and in this period it is advisable that the individual's mode of life be adjusted to meet the changes which the body and nervous system undergo in physiological involution.

As soon as the first symptoms appear the patient should be relieved from business responsibilities and exciting influences and secure complete mental rest. The diet should be carefully regulated, alcohol abstained from com-

pletely and the use of tobacco reduced to a minimum. As a rule the three regular meals should be replaced by more frequent ones consisting of smaller amounts of easily digested food with a minimum amount of meat. Whatever causes flatulence should be avoided. When headache, insomnia and nervous symptoms are troublesome it is of advantage to place the patient on an exclusive milk diet for a time.

Hydrotherapy.—Warm tub bath (temp. 98 to 100°) once or twice daily. Massage of muscles is beneficial because depletion of the veins may follow giving relief to overfilling of arteries. Either sodium or potassium iodide may be used and are the best medicinal effects. The best effects are obtained when they are used in small doses and continued over a long period of time. For insomnia, warm milk and hot foot bath at bed time. Care must be taken in administration of heart stimulants. Usually a sedative is better and safer.

In hemorrhage the head should be high with plenty of pillows and the body placed in a half reclining position. Cold may be placed to head to cause contraction of the cerebral vessels and heat to the lower extremities to dilate the blood vessels and lessen the blood pressure in the brain.

If the case is one of embolic obstruction our desire is to increase the intracranial blood pressure. For the embolism already being there and beyond the hope of immediately removal, it is an object to check its progress and further development by suddenly making it stationary. To do this the head of the patient should be placed as low as possible, instead of a cardiac sedative a stimulant acts more favorably, such as digitalis or ammonia. The head should be to one side, the nurse should keep the tongue forward and keep the mouth swabbed out. Venesection is not to be recommended unless the pulse is strong and full and the heart in good condition and the patient robust. About ten ounces of blood may be withdrawn. The heart action is however, usually weakened in apoplexy and to weaken it still more, deprives it of its natural stimulus and is not to be recommended. Venesection should never be employed in embolism.

In traumatic conditions, in which the symptoms indicate a superficial location of the clot, trephining for the removal of the clot may be considered.

Certain cases are helped by lumbar puncture and the withdrawal of 20 to 30 cc. of fluid thereby relieving the increased intracranial pressure.

It is a very difficult matter to carry out treatment of these kind of cases outside of an institution especially when mental symptoms are prominent, such as delirium, persecution, mental confusion and extreme irritability. Many of them get along much better and are more contented when among strangers than when in their own homes.

Hot milk, hydrotherapy and simple hypnotics when carefully used are effectual in controlling restlessness and much more satisfactory than indiscriminate use of sedatives.

DISCUSSION.

Dr. Harvey: Not in position to comment on the paper, but wishes to express his appreciation of its excellence. It shows a great amount of experience and ability.

Dr. Fulkerson: Circulatory disturbances of the brain do not come within the scope of the ophthalmologist, but wishes to urge the early examination of the eye in this class of cases. Has been surprised to find how early and how easily the changes can be found in the eye. Ophthalmoscopic examination will render a great deal of service in many of these cases and the general man should familiarize himself with the use of the ophthalmoscope.

Dr. Jackson: The essayist has observed a large series of these cases and his experience is of great value. Asks what proportion of these cases die of paralytic symptoms. Janeway states that only a small per cent. die with apoplectic symptoms, but rather a large per cent. die from cardiac causes. Would expect from a series such as just reported, that a larger percentage would have terminal cerebral symptoms.

Dr. Penoyer: An article in Clinical Medicine emphasizes the point brought out by Dr. Fulkerson on the importance of the ophthalmoscopic examination. Patients having arterio-sclerosis often have a low blood pressure. Arterio-sclerosis may involve only certain regions of the arterial system. Abbott has worked up the subject of hypotension and says that there is a class of arterio-sclerosis in which the renal changes may not be marked. We should examine the condition of the blood vessels and along with this consider the findings of the ophthalmoscope. Many cases become cardiac cases.

Dr. Gregg: Agrees with Dr. Fulkerson that a very important thing is the examination of the fundus of the eye. Do not get as clear a conception of the condition of the brain in any other way. Examine for the tortuosity of the blood vessels, etc. Does not believe the percentage of arteriosclerotic patients who died of stroke to be very high, probably not over 10 per cent., some other lingering disease usually carries them off, such as cardiac disease, pneumonia, etc. Arterio-sclerosis may bring on an exhaustion, and it is hard to tell what really did cause their terminal symptoms. The complete rest is not satisfactory in all cases and should be modified according to the case. There should be lessening of responsibility but not absolute inactivity in early cases.

A NOTE ON THE TREATMENT OF INFLUENZAL PNEUMONIA BY INTRAVENOUS INJECTION OF NON SPECIFIC PROTEIN.

THEODORE LOUIS SQUIER, M.D.

(From the Department of Internal Medicine, University of Michigan.)

In spite of the fact that many articles have already appeared concerning the excellent results following non specific protein therapy in influenzal pneumonia we feel that its value can not be over emphasized. To attempt a detailed discussion of the merits of such treatment would lead us beyond the scope of this paper. We wish merely to present four cases, the first two of which were treated with the idea in mind of combating the infection by supplying additional specific immune bodies as such. The apparent failure of this treatment in the second case led to the successful use of non specific protein in this and the two subsequent cases.

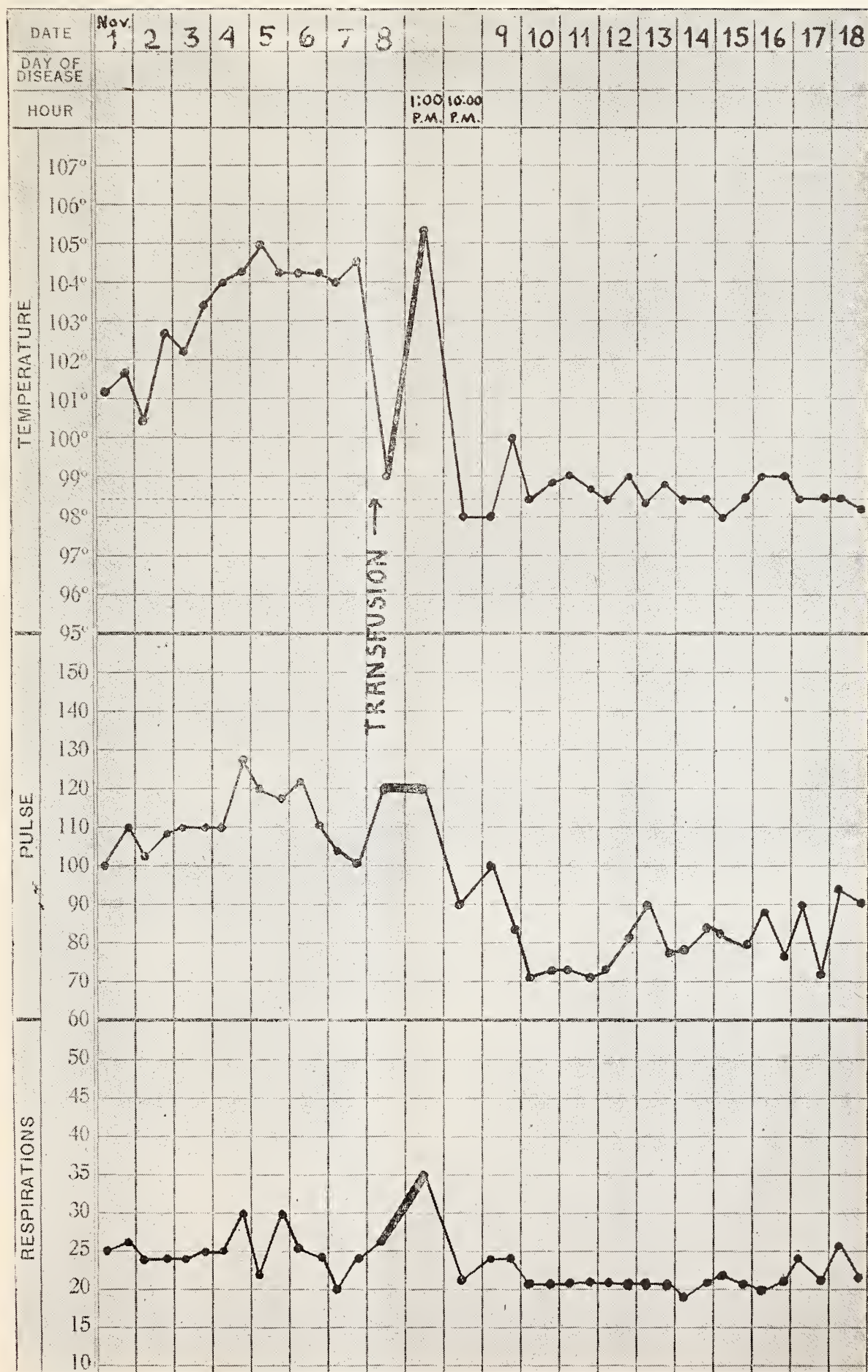
CASE 1. The patient, a nurse, entered the ward Oct. 29th with symptoms of influenza. Her temperature, pulse and respiration remained normal subsequent to her admission and as she felt well and there were no physical signs discovered she was discharged on the 31st. On the day following her discharge she re-entered the ward with a temperature of 101.5 degrees. Her symptoms increased in severity but with no definite abnormal lung signs until Nov. 4th when her temperature rose to 104 degrees and her respirations increased to 30. A few crackling rales were heard at the left base and a definite area of consolidation was found in the left lower back. She complained of general aching, was nauseated and vomited frequently. On the following day she raised blood streaked sputum, had a great deal of pain in her left side and coughed considerably. The nausea continued and on Nov. 6th she was irrational at times. Her condition became progressively worse until on the 8th her temperature dropped to 101 deg., but the pulse increased in rapidity, cyanosis was marked and her respirations were of the rattling, bubbling character which had proved of ominous import in preceding cases. She was at this time given an intravenous injection of 450 cc. of citrated blood (homologous) from a patient who had recently recovered from influenzal pneumonia. The transfusion was preceded by the withdrawal of 250 cc. of blood. Forty-five minutes later she had a severe chill lasting half an hour. Her temperature rose to 105.2 degrees and then fell

by crisis, as shown on the chart, to normal, and there was a coincident fall in the pulse and respiration. The change in her general condition was remarkable. After the reaction she became perfectly rational, was very comfortable, and except for a post critical rise to 100 degrees on the following day her temperature thenceforth remained normal.

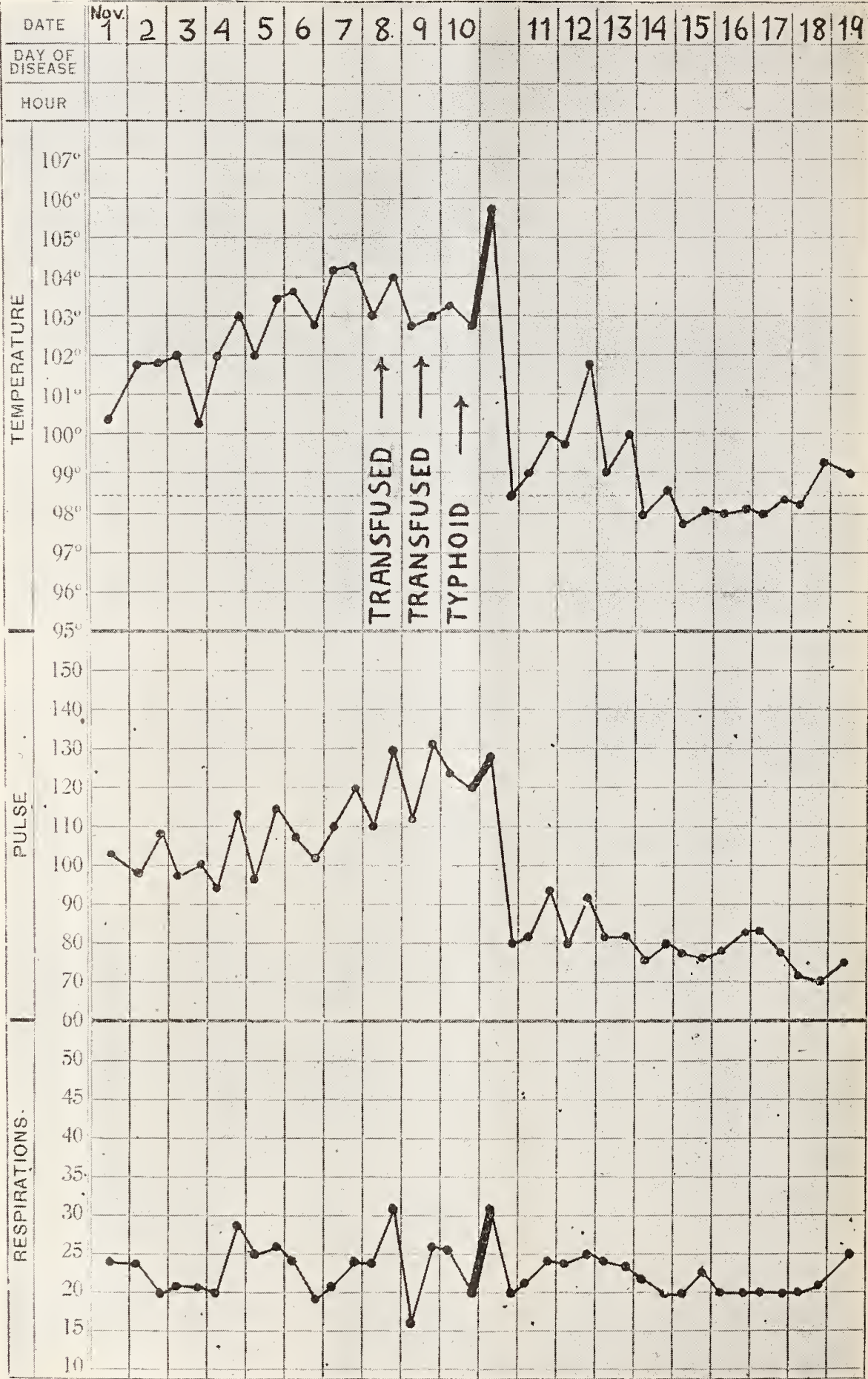
CASE 2. The patient, E. B., a nurse who had just cared for a fatal pneumonia case, entered the ward Nov. 1st with a temperature of 100.4 degrees. On the 8th her respirations rose to 32 and the temperature to 104. On examination there was slight dullness in the right lower back. A chest X-ray confirmed the diagnosis of early pneumonia. She was then given intravenously 300 cc. of citrated blood from a recovered case of influenzal pneumonia. The transfusion was preceded by the withdrawal of 200 cc. of blood. There was no reaction whatsoever and the temperature, pulse, respirations and general condition remained unchanged.

On the assumption that the blood used might possibly have contained fewer immune bodies than did that which was used in the preceding patient, transfusion was repeated on the following day. This time 300 cc. of blood obtained from the same patient whose blood had produced such excellent results in the first case was injected, 250 cc. of blood having first been withdrawn from the patient. Again there was no reaction and again there was no change in the temperature, pulse, respiration or general physical condition of the patient.

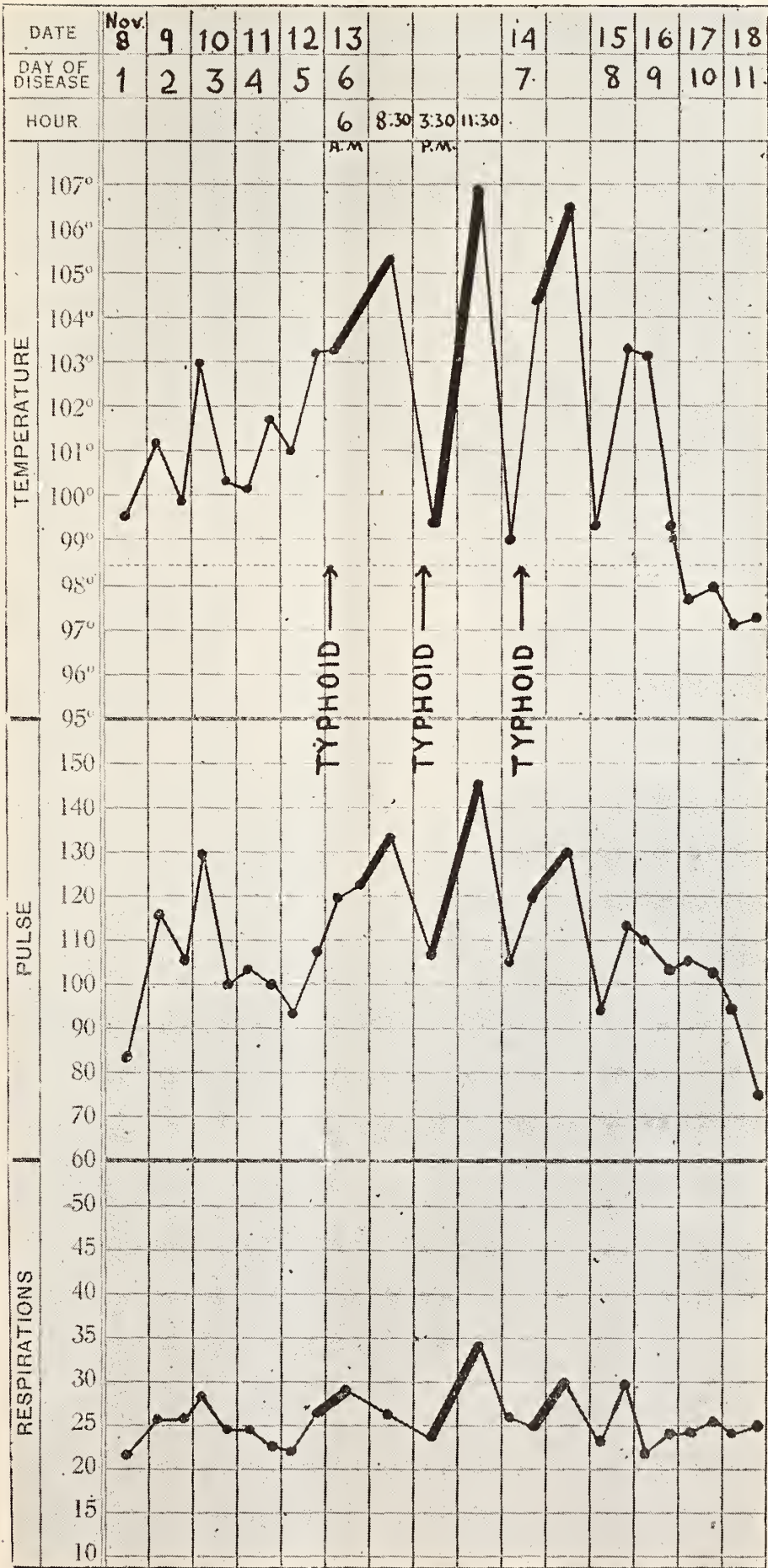
We were led to the conclusion that either the remarkable improvement following transfusion in the first patient was due to a natural crisis coincident with the transfusion or else it was due to the reaction, since transfusion with the same immune blood when no reaction followed caused no improvement. Therefore on the following day, Nov. 10th, the patient was given one billion typhoid bacilli intravenously. One-half hour later she had a severe chill which lasted twenty minutes. Her temperature rose to 105.8 degrees and then fell, in the course of the next six hours, to normal, with a corresponding drop in the pulse and respiration. On the 11th and 12th there was an afternoon rise in temperature to 101.2 degrees and 101.8 degrees respectively. On the 13th her temperature was normal and it remained so until on the 19th when she began to run a septic temperature which was demonstrated by X-ray to



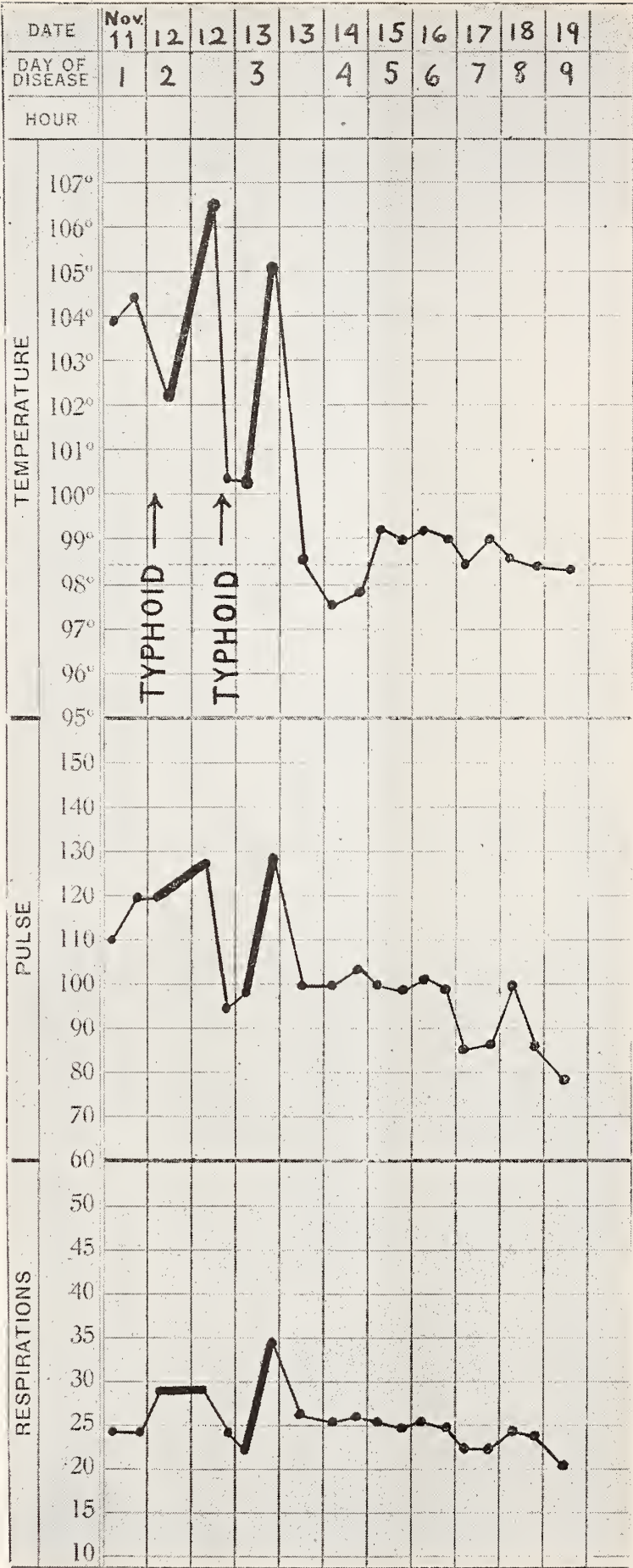
CASE I.



CASE II.



CASE III.



CASE IV.

be due to lung abscess. Her convalescence was slow because of the complication.

CASE 3. The patient, M. S., a nurse, entered the ward Nov. 8th having contracted influenza while caring for the first patient discussed. Her temperature, pulse and respiration on entrance were 99.5 degrees, 85 and 22 respectively. Her temperature varied from 101 to 103 degrees until Nov. 12th when the chart showed a definite change; her temperature rose to 103.4 degrees and respirations were increased. Careful examination revealed only a few crackles in the left base with no dullness. She was sent to the X-ray room and evidence of beginning bronchopneumonia in the left axillary region with congestion of the right upper lobe was obtained. On the following day an injection of one-half billion typhoid bacilli was given intravenously. Her temperature rose to 105.2 degrees with an accompanying chill lasting twelve minutes. Eight hours after the injection her temperature had fallen to a minimum of 99.5 degrees after which it began to rise. When it had reached 102 degrees she was again given typhoid bacilli intravenously, the dose this time being one billion. The usual reaction with a rise in temperature to 106.8 degrees axillary followed. Six hours after the injection her temperature had fallen to 99 degrees, but inasmuch as the drop was again but temporary, the same dosage of typhoid was repeated. A chill lasting for twenty minutes followed the injection and the temperature rose to a maximum of 106.7 degrees mouth. Subsequently the temperature dropped to 99 degrees but on the following day it rose to 103.5 degrees. Since a post critical rise had been seen in the other cases it was decided to wait before repeating the protein injection. On the following day the temperature had dropped to 99.2 degrees. On the next day it became normal and remained so during the uneventful convalescence.

It is exceedingly interesting to note that in this case definite physical signs of pneumonia could be demonstrated for the first time on the 15th, the day on which she received her last protein injection, and this in spite of the fact that the area involved had been already localized by X-ray examination. Clearly treatment in this case was begun while the process was still central and the degree of involvement slight. We feel that for that reason the crisis was unquestionably hastened.

CASE 4. The patient, a woman, age 24, entered the hospital complaining of cough, pain in the chest and weakness. She had had symp-

toms of influenza for the four preceding days. On examination there was impaired resonance at the left base with bronchial breathing and fine crepitant rales, and a few abnormal signs were present in the right base. The heart apex was one and one-half inches outside the nipple line and a loud blowing systolic murmur heard at the apex was well transmitted to the axilla. On the morning following admission she was given one-half billion typhoid bacilli intravenously. The usual chill followed and the temperature rose to 106.4. During the afternoon she perspired freely, felt very much more comfortable and the temperature dropped to 101 degrees. On the 13th it began to rise again. The protein injection was repeated. A good reaction followed. The chill lasted for 15 minutes and the temperature rose to 106.5 degrees. Two hours later the temperature had fallen to normal and it remained normal during the uneventful convalescence.

SUMMARY.

1. A citrated blood transfusion which produced a severe reaction was followed by a drop in temperature by crisis and by prompt recovery.
2. Two transfusions with immune blood which caused no reaction were followed by no change in the temperature, pulse, respiration or general physical condition.
3. When typhoid substance was used and a typical protein reaction obtained there was in each instance a sharp fall in temperature and a dramatic improvement in the patient.
4. These results have led us to believe that non specific protein therapy has a very definite and important place in the treatment of influenzal pneumonia.

TONSILLECTOMY TECHNIC.

J. MILTON ROBB, M.D.

DETROIT, MICH.

There is probably no surgical operation more universally done at the present time, than tonsillectomy. This article is not an argument for or against the operation, being so extensively done, but the description of a technic which I have found to be satisfactory.

Two factors are paramount in doing a tonsillectomy:

1. The complete removal of the tonsil.
2. Leaving of the landmarks of the throat in the most normal condition possible.

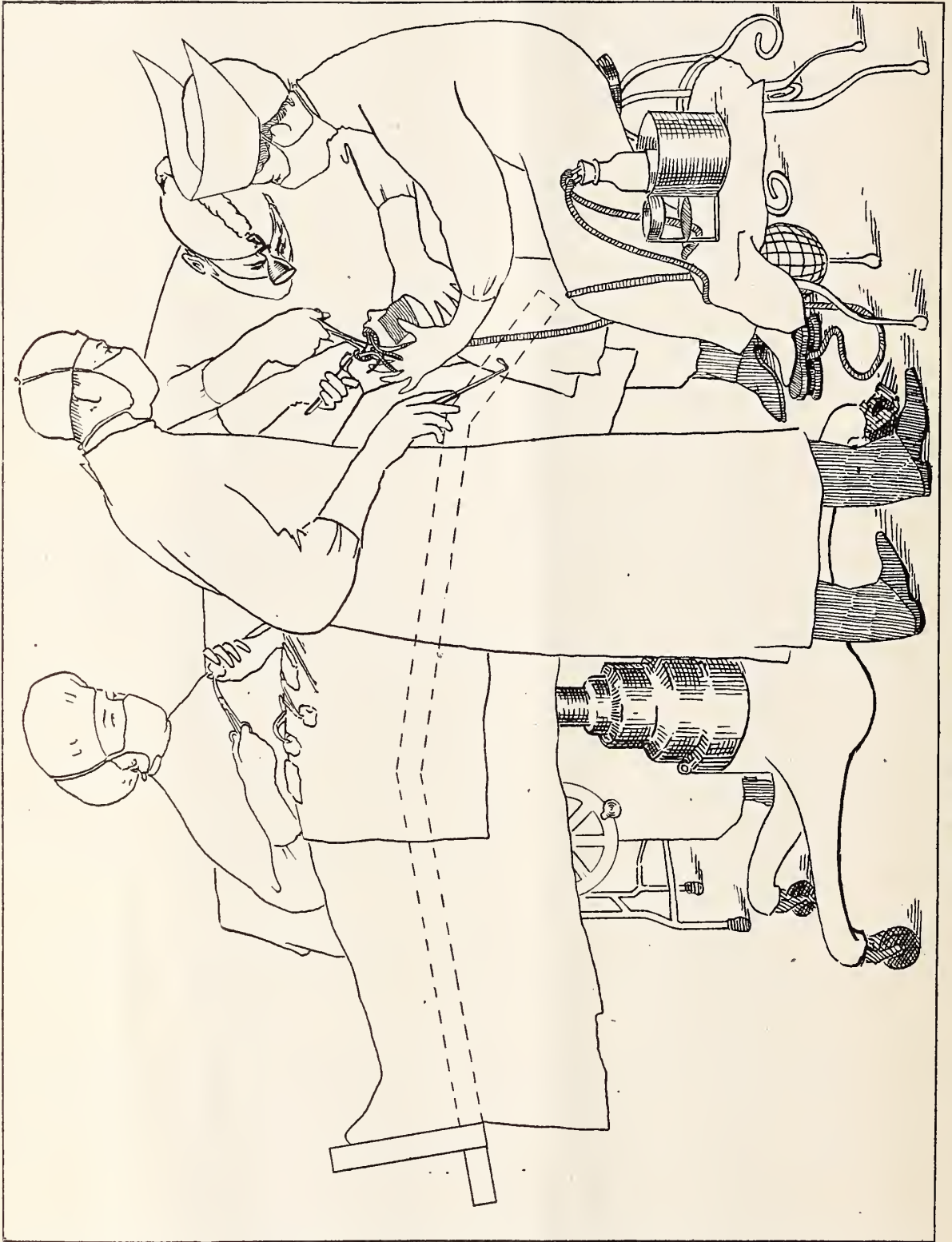
Other factors:

- (a) Prevention of operative and post-operative hemorrhage.

(b) Prevention of lung complications due to aspirations.

As to the first, I believe it will be generally conceded that a partial tonsillectomy is worse

As to the second: The amount of disturbance in the physiological action of the muscles of the throat in speaking, singing, swallowing and general comfort, by mutilation of the pil-



(PLATE I.) Showing position of patient (table) during operation.

than none at all, in fact it has produced complications twice as frequently as tonsils never removed, according to reports from investigation at Johns Hopkins Hospital. (*Bulletin, Johns Hopkins Hospital, January, 1917.*)

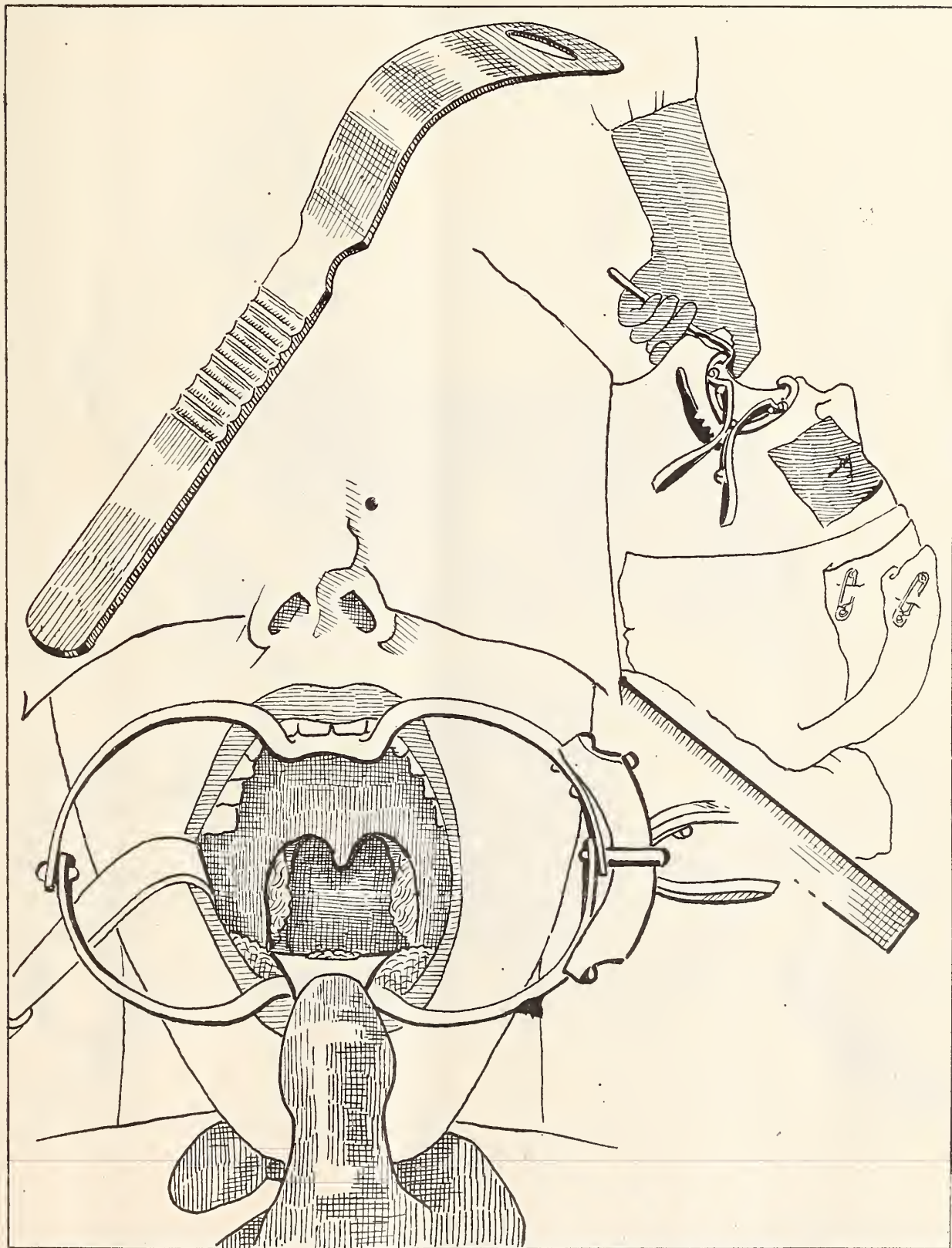
lars, and soft palate, cannot be definitely stated. I have had my share, but with the development of this technic, mutilation of the throat is rapidly becoming a negligible factor.

Out of my last two thousand cases, I have

had 2 per cent. postoperative hemorrhage which required attention after returning the patient to the room and this mostly in patients between

local with a punch at the office.) I have had no lung complications.

Technic.—(Under general anesthesia).



(PLATE II.) Position of jaw and tongue as under best control by the grasp.

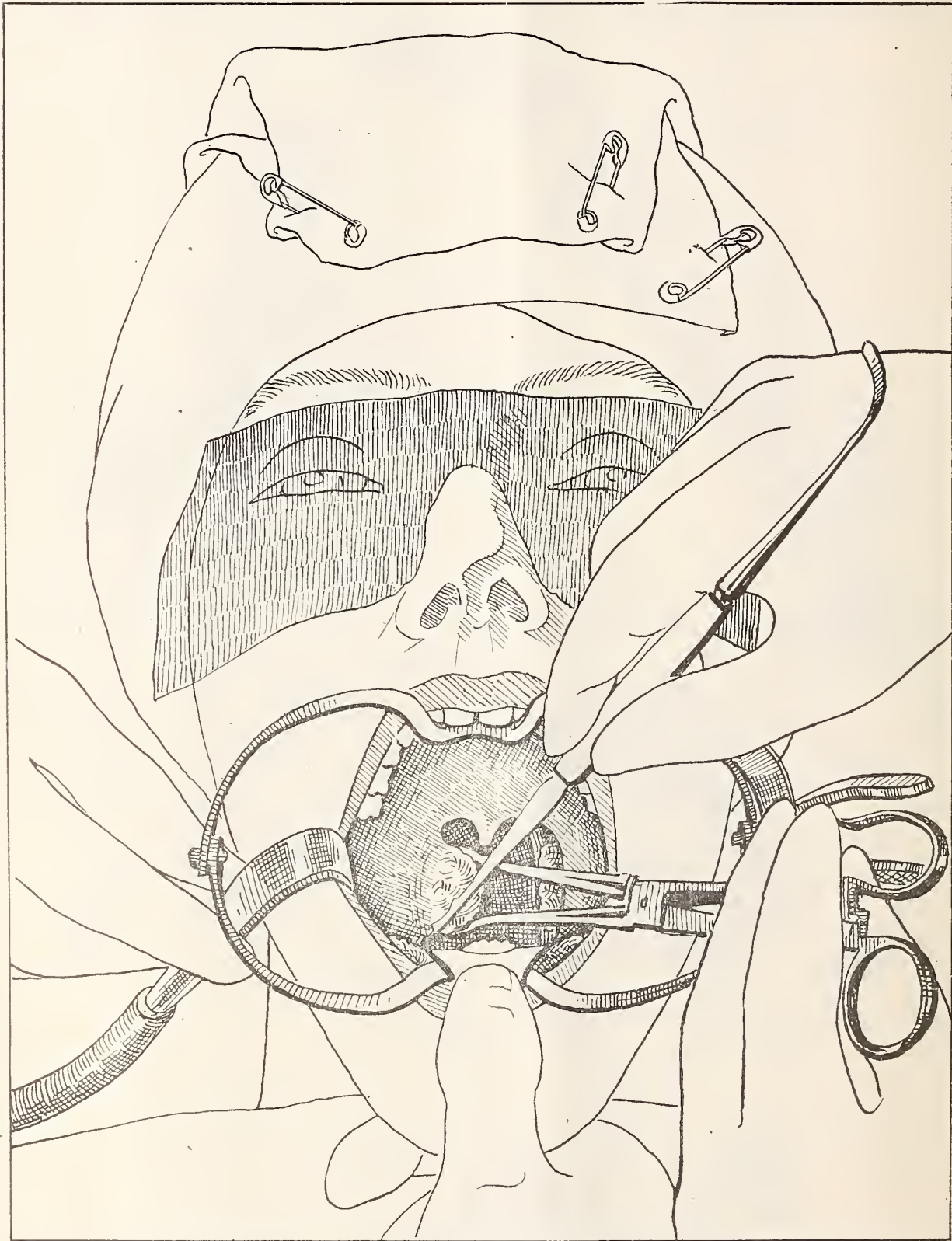
50 and 70 years of age, in which locals were done and one-half of one per cent. in which tonsil tissue remained. (This I remove under

I. Anesthesia.

As a rule none but deep anesthesia is sufficient because:

(a) Muscular action through swallowing and straining enhances bleeding by milking the blood from the patent vessels.

use of an aspirator, for the reasons, first that it tends to prevent clotting by drawing blood from the vessels and second I do not find it



(PLATE III.) Beginning incision at insertion of palatoglossus muscle with tongue.

(b) Careful dissection and good breathing demands control of these muscles.

I might state here, that I do not favor the

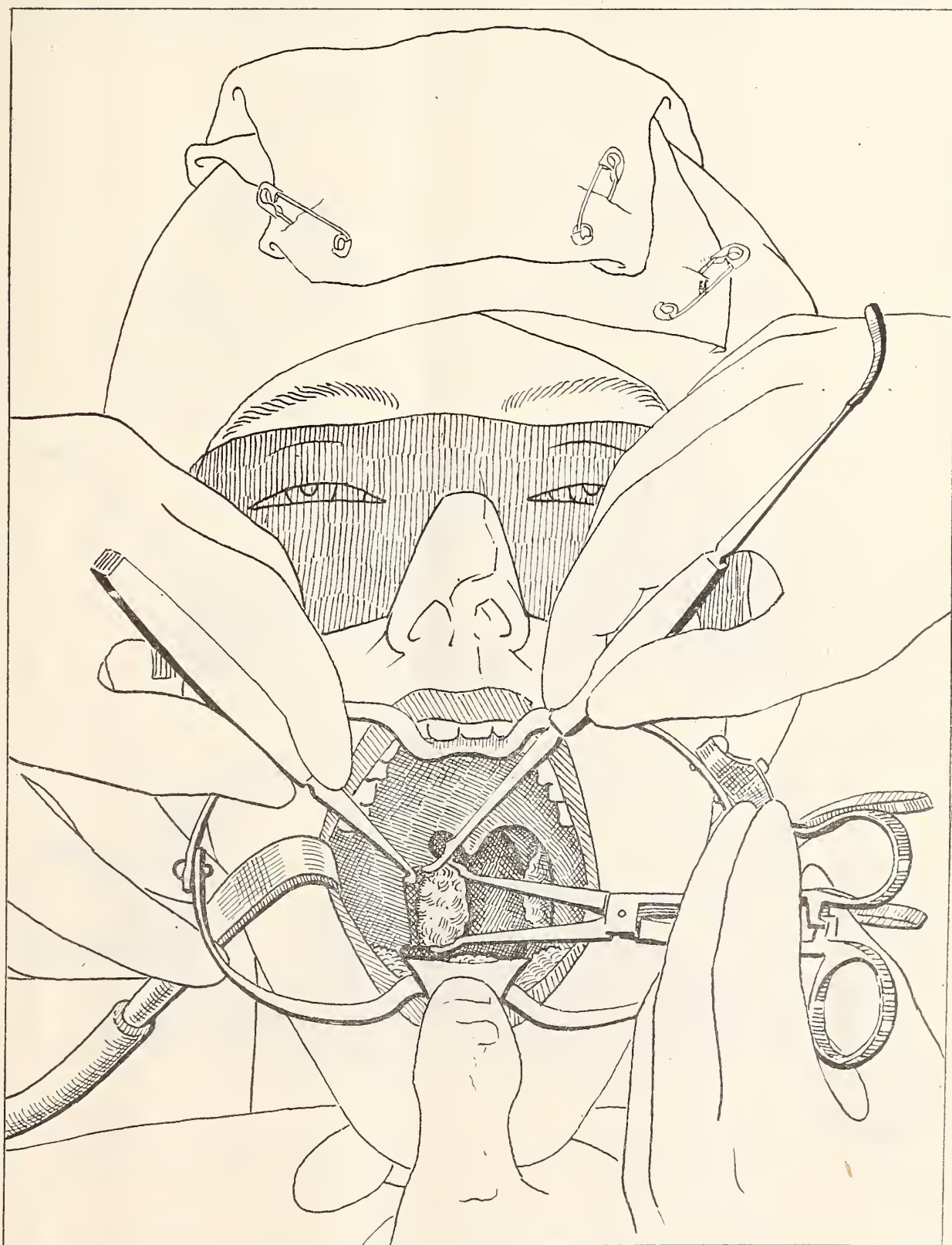
necessary unless I am doing some other work on the mouth or nose with profuse hemorrhage.

After the jaw is sufficiently relaxed to admit

the mouth gag, anesthesia is continued by use of the Fellie-Brown apparatus.

II. Position of table (Plate I.)

when ready for operation the head of the table is further lowered to an angle of about 135 degrees. This position causes all mucus, blood,



(PLATE IV.) The assistant holds the pillar taut with the dull dissector.

After the patient is fairly under the anesthetic the upper one-half of the table is tipped down to an angle of about 160 degrees and

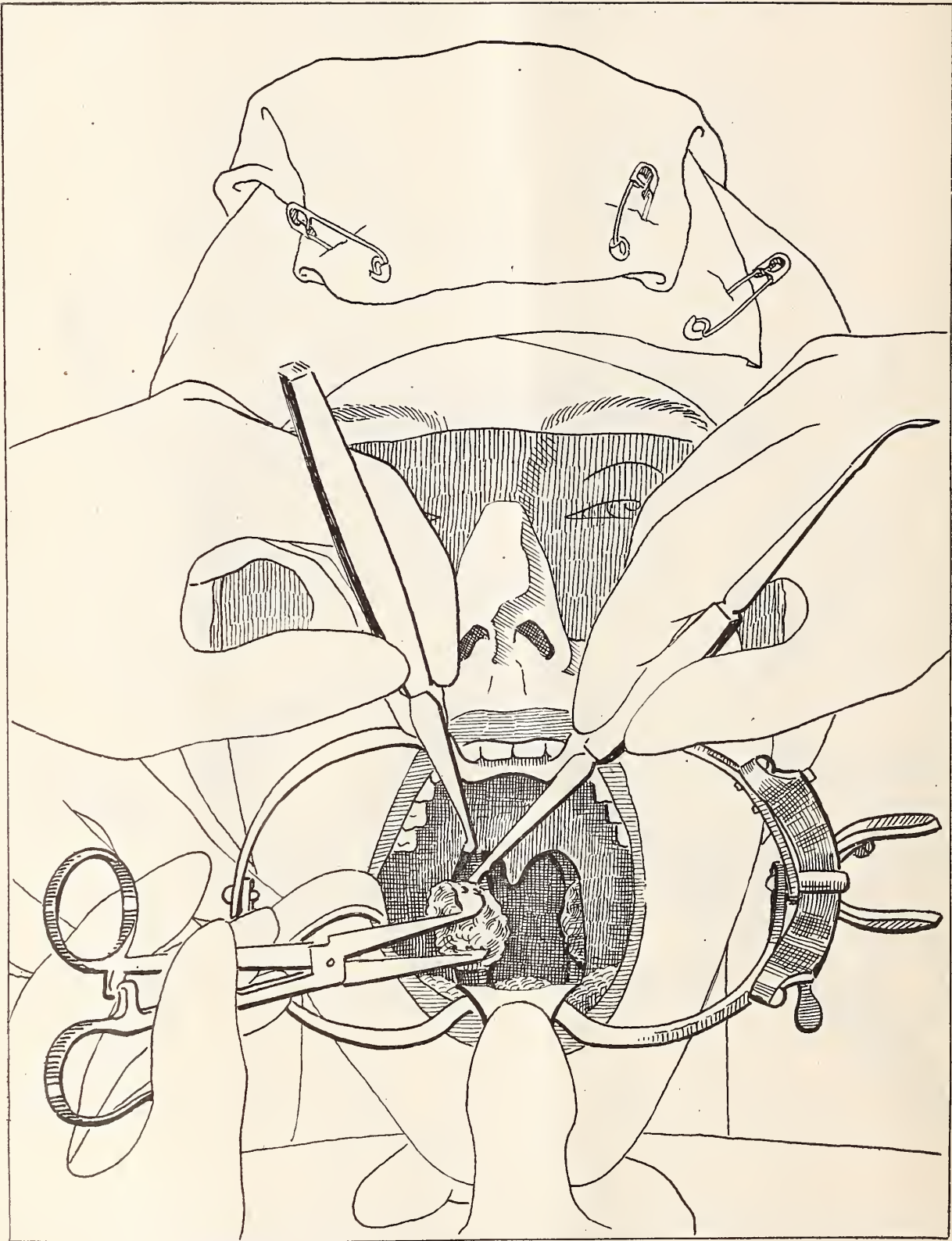
etc., to gravitate to the mouth, where it is readily swabbed out instead of being aspirated into the lungs. This also gives the best posi-

tion and largest space to the operative field, and likewise renders convenient and safe the drainage and washing of the maxillary sinuses,

this subject will be dealt with in another article.

III. Position of Jaw. (Plate 2.)

The accompanying illustrations are quite self-



(PLATE V.) Continuation of Plates 3 and 4.

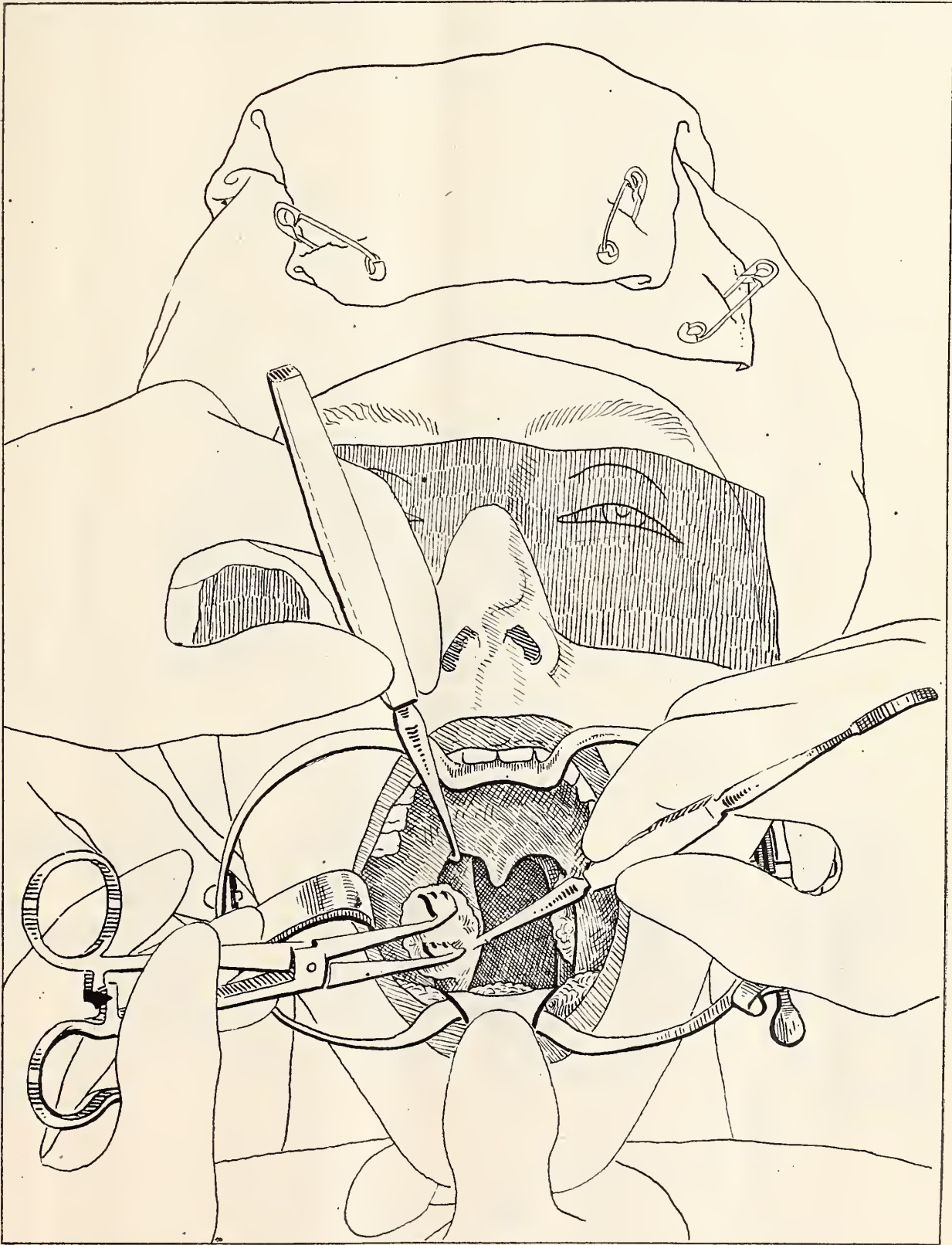
which I find indicated in about 25 per cent. of adults whose "Catarrhal" nose and throat conditions bring them to tonsillectomy. However,

explanatory. The jaw is held easily up and in position for the best breathing, the field is in best view, and the tongue depressed. This posi-

tion is essential to good control, and I require the assistant to maintain it.

IV. Operative Procedure. (a) (Plate 3.)

the anterior pillar close to the edge and always at the insertion of the palatoglossus muscle with the tongue. I then turn the sharp dis-



(PLATE VI.) Separation of posterior pillar while both pillars are held taut.

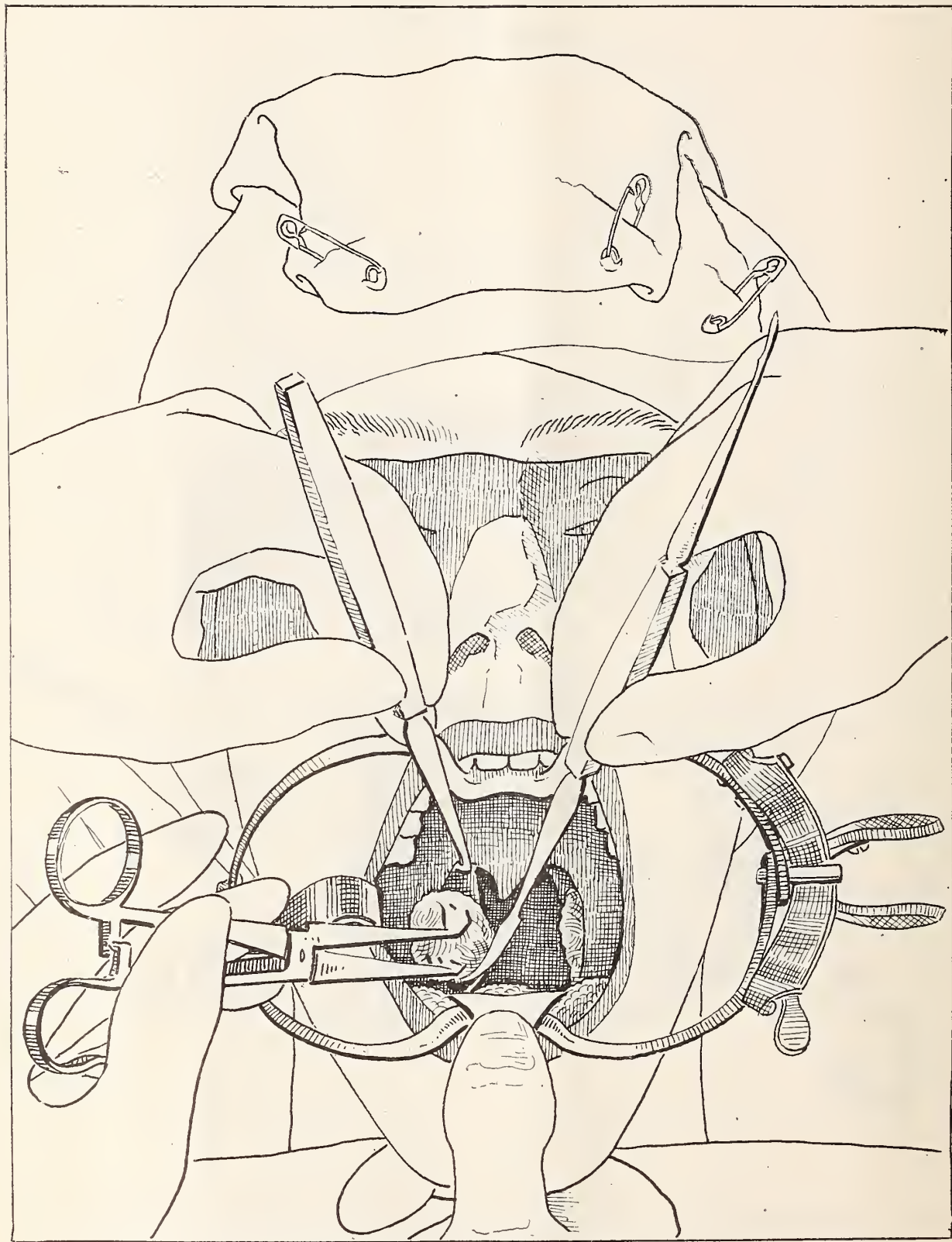
After grasping the tonsil firmly, being careful to avoid including either pillar, with the instrument illustrated, I enter the margin of

sector sidewise, unless scar tissue demands the sharp edge, the assistant inserts the crooked dull dissector and follows the sharp dissector

in the incision upward, holding the pillars tense, which allows of control of the position of the incision. (See Plate 4).

and I separate it from the tonsil, by an incision downward to the lower pole. (See Plate 6.)

If the pillars are held taut, as described, it



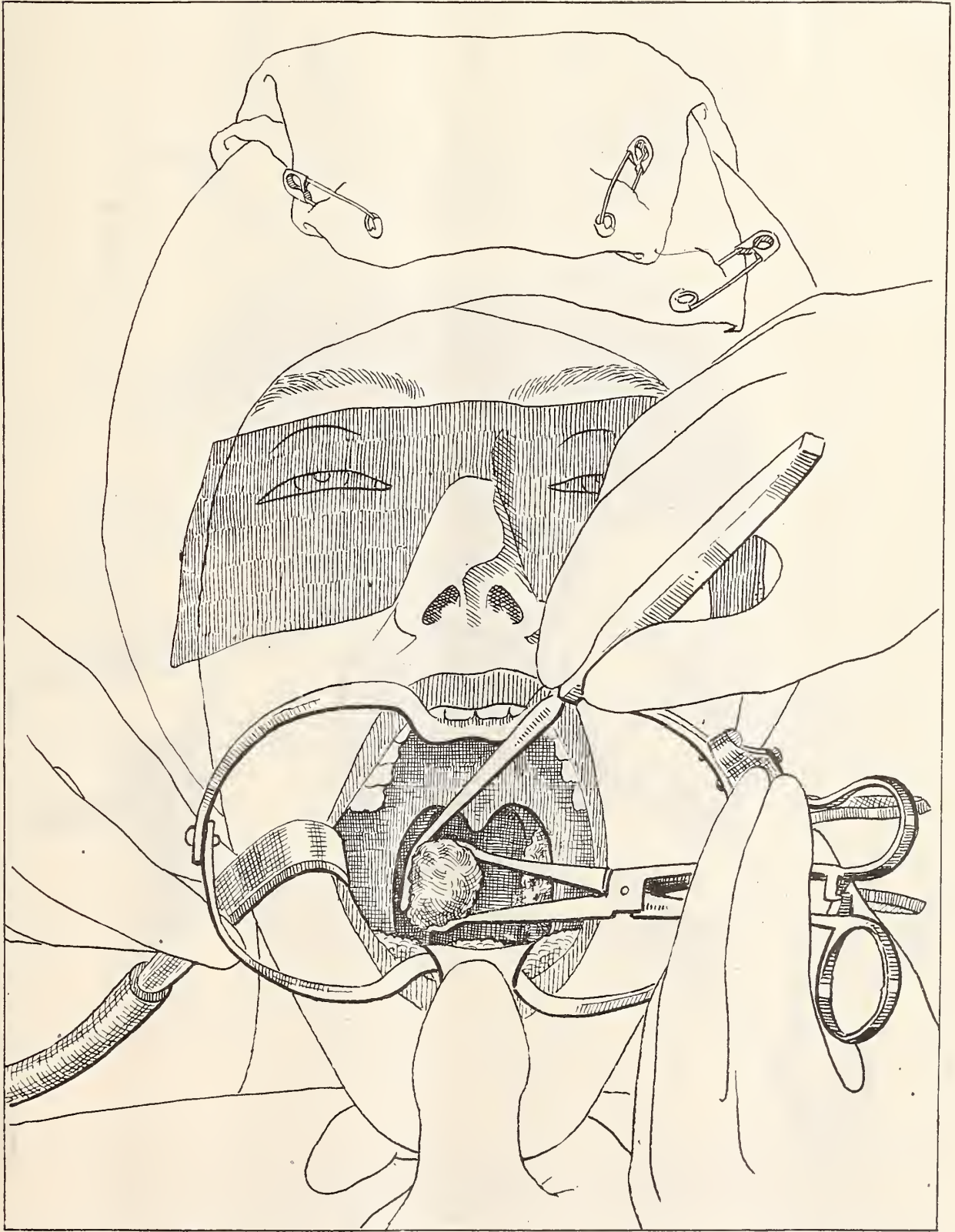
(PLATE VIII.) Further separating tonsil after incision.

Having reached the upper pole the assistant holds both pillars tense, the tonsil is tipped outward, the posterior pillar comes into view

is practically impossible to mutilate them, which has always been one of the postoperative disturbing elements of tonsillectomy. We all know

the final appearance of the throat after it which under best circumstances is not always ideal.

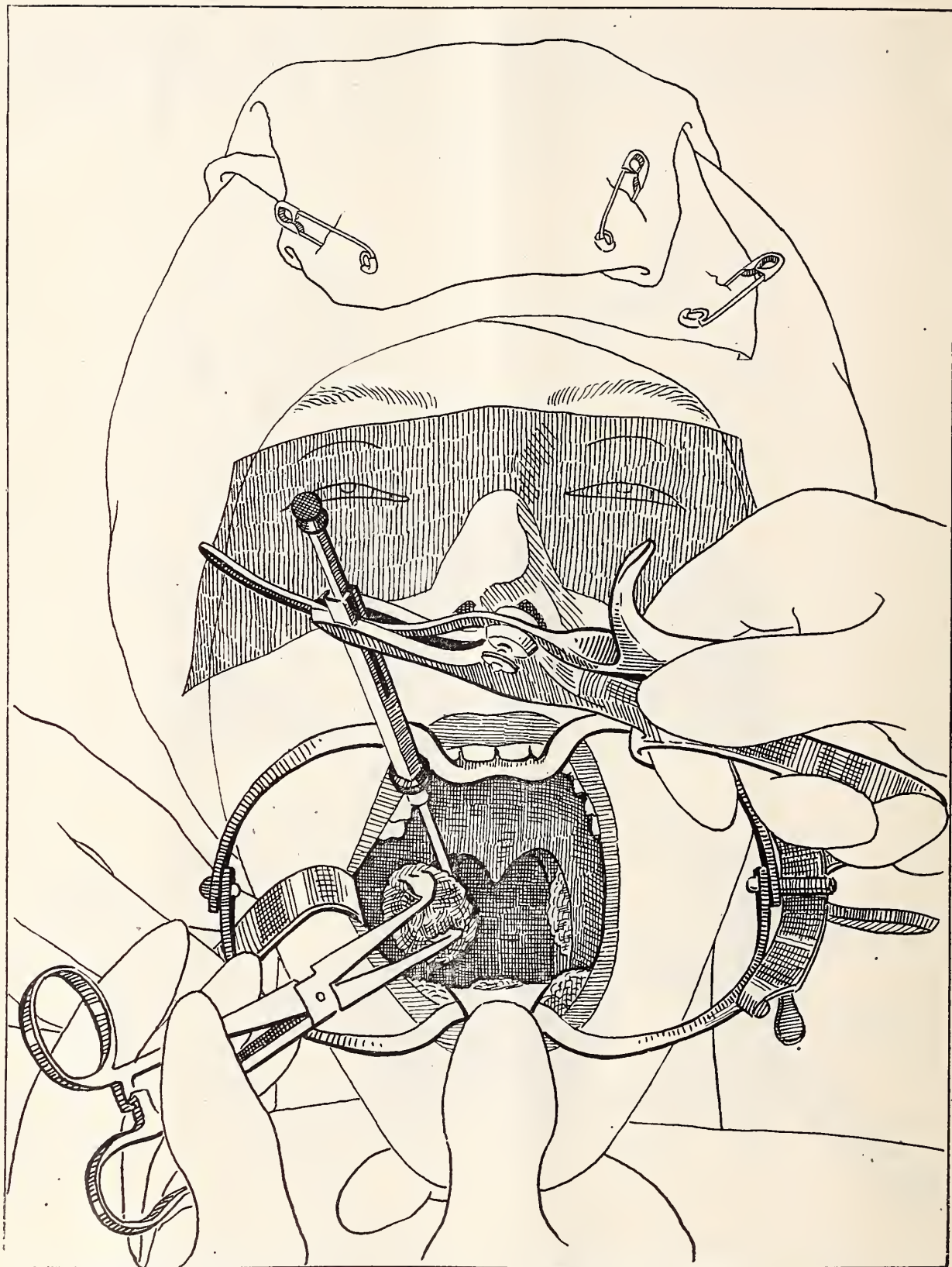
The tonsil main points of attachment are pillars about the tonsil. If a partial tonsillectomy has been done or if there is much scar tissue, from repeated tonsillitis or quinsy, the



(PLATE IX.) Separation of tonsil near base with dull dissector only, to prevent cutting into tonsillar plexus of veins.

at the borders of the pillars and at the hilus, therefore, the main work of dissecting is finished after the incisions through the margin of the

attachment of the pillars to the tonsil will be far more extensive which only further emphasizes, however, the need of a definite routine

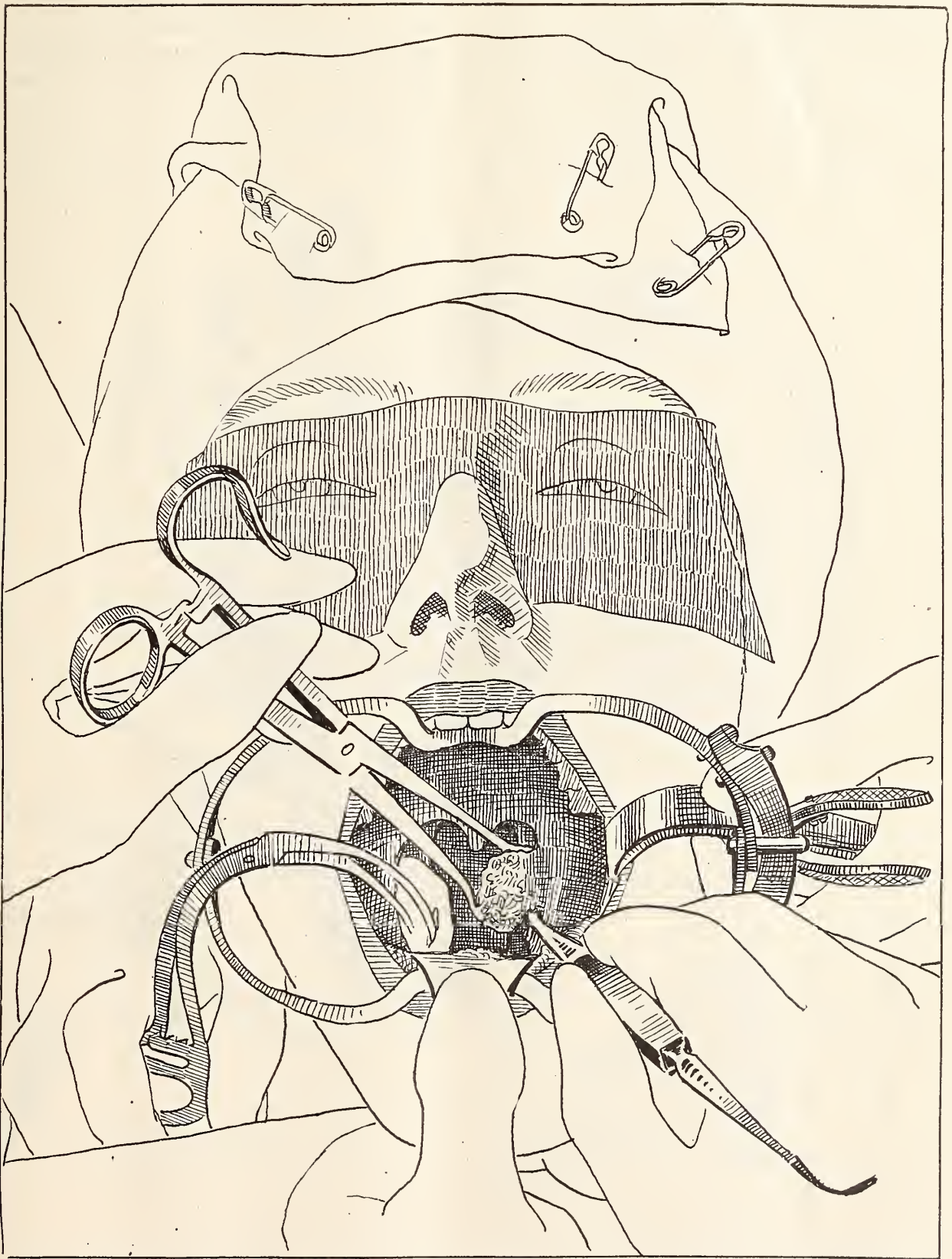


(PLATE X.) At this stage there is very little danger of the snare cutting through either the capsule of the tonsil or the fascia of the superior constrictor muscle.

method of dissection.

After the margin of the pillars has been separated as above, I use the curved or dull dissector or both to further enucleate the tonsil if necessary. (Plate 8, 9 and 10).

The above procedure allows the snare wire to draw into the area of cleavage between the pillars and the capsule and almost invariably it will follow this course, leaving the pillars intact and keeping outside of the capsule, thus



(PLATE XII.) Resecting the left tonsil. Note that the Felle-Brown is brought over to the left side of the patient. Note also the pad clamped down in the bed where the right tonsil was resected and that it is held in place by the assistant who is administering the ether with the Felle-Brown.

Otherwise the detail is the same as is explained in Plate 3.

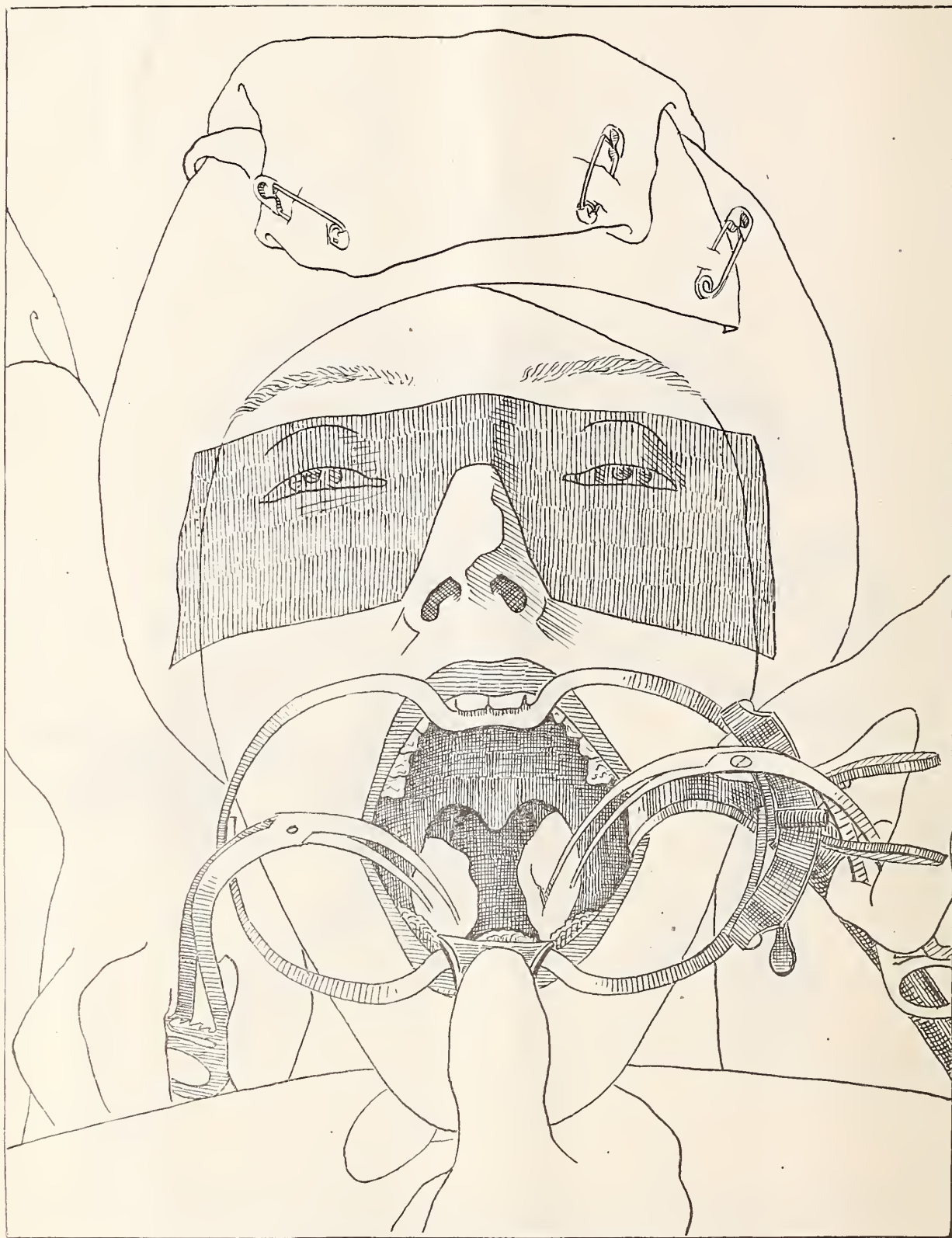
removing the entire tonsil, and of equal importance, preventing the snare cutting through the fascia of the superior constrictor muscle of the pharynx, just beneath which lies the tonsillar

plexus of veins. (See Plate 14 and 16).

This plexus can readily be seen in nearly every case lying in the floor of the fossa beneath the fascia. (Plate 14) is a reproduction

from Davis, applied anatomy, Page 113, Fig. 142. and Plate 16 is an exaggerated drawing of the plexus as it appears after the tonsil is re-

(Gray) the close proximity of which may account for considerable pressure at the point and this fact emphasizes the necessity of preventing



(PLATE XIII.) The Bergeron forceps in position both sides.

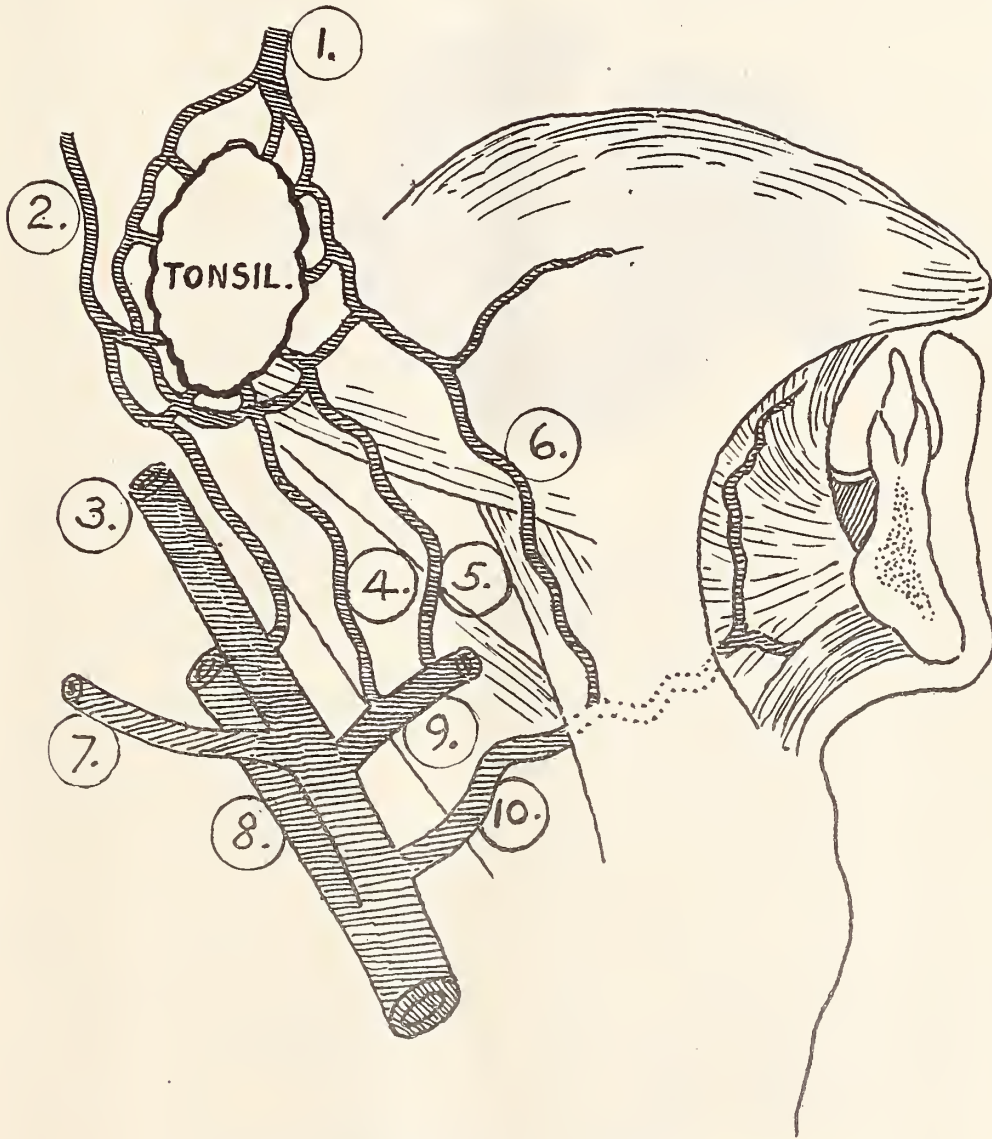
moved. The tonsilar plexus of veins communicates directly with the pharyngeal plexus and with the pterygoid plexus of the internal juglar

increased pressure by reason of patient straining if not well anesthetized. Hemorrhage after tonsillectomy is almost invariably of the oozing

type, which would make it appear to be venous in origin, however, the several arteries feeding the tonsil form almost as complicated a plexus and would be a more dangerous one were it not that they lie deeper, and bleeding from them is so evident it is usually controlled before the patient leaves the table.

The main blood supply of the tonsil enters

removing the left tonsil in similar manner. (Plate 12). Following another Bergeron forcep is placed in the left fossa, (Plate 13). These are held in place for about five minutes, which is about the required time for the blood to coagulate in the field as shown by experience. I usually insert a catheter into the nose and out of the mouth to elevate the soft palate for



(PLATE XIV.) Diagram illustrating the blood supply of the Faucial Tonsil.

- | | |
|----------------------------|------------------------|
| (1.) Descending Palatine. | (6.) Dorsalis Linguae. |
| (2.) Ascending Pharyngeal. | (7.) Occipital. |
| (3.) External Carotid. | (8.) Internal Carotid. |
| (4.) Ascending Palatine. | (9.) Facial. |
| (5.) Tonsillar. | (10.) Lingual. |

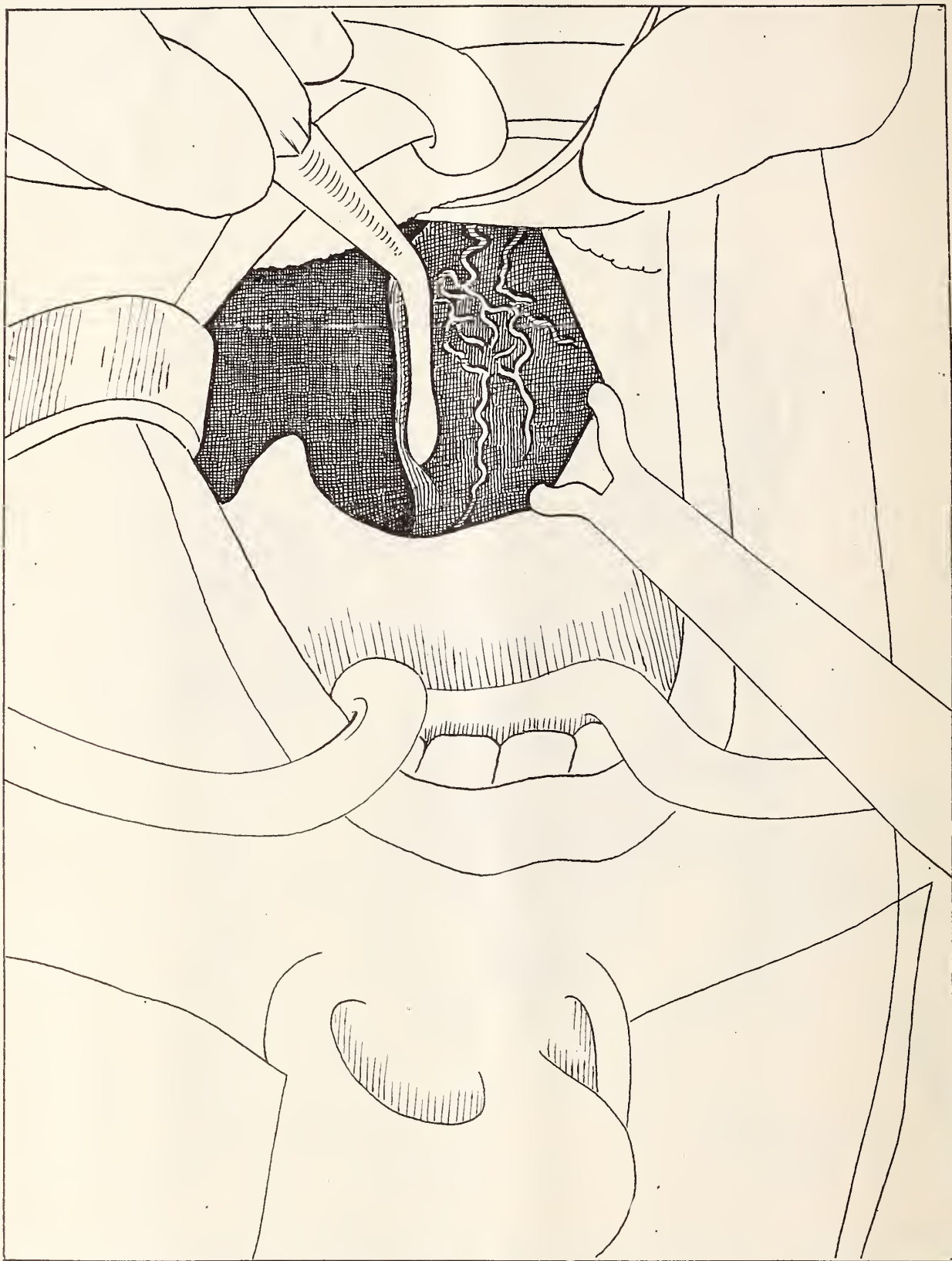
This diagram is reproduced from "Applied Anatomy." By G. G. Davis. Pp. 113, Fig. 142.

at a comparatively small point and ordinarily the snare does little cutting if started right until it gets to them.

Immediately after the tonsil is removed the assistant inserts the curved Bergeron forcep with a sponge, large enough to tightly fill the tonsillar fossa. This is held in place by the anesthetist while I change to the other side

investigation of the pharynx, which can usually be done while the Bergeron forceps are still in place, or the maxillary sinuses may be opened while waiting if indicated.

I have seen no method which permits of so little bleeding, and except for bleeding from the adenoid field, very often the only sponging necessary is for mucus. I find a very satis-



(PLATE XVI.) Exaggerated view of the tonsillar plexus of veins after the tonsil is removed. The anesthetist changes the Fellie-Brown mouth part on the opposite side as a retractor of the lips.

factory method of lessening hemorrhage from the adenoid space to be to immediately pack a piece of loose gauze into the pharynx as soon as the adenoids are entirely removed. This pack I remove just before the mouth gag is

taken out.

Some possible objections to this routine.

1. It may appear complicated and to require too much time. It does not, the very routine makes it rapid. In point of time second

to no other method commensurate with a certainty of satisfactorily completing the operation.

2. Requirement of an assistant, and double hinged table. Both are essential, and I also employ an instrument nurse who is of great help especially in point of time. There are many circumstances in which these are not all available, but I think that in the average hospital they can be available, and as to operating in homes and office, there may be times when it is unavoidable especially, in vicinities where there are no hospitals, but I am sure the results we see discourage this most emphatically.

With the apparent increasing evidence of the value of tonsil and adenoidectomy, the need of a most careful inquiry into the best methods cannot be too strongly emphasized, and I think the time should come when every county or group of counties of every state should be furnished with hospital facilities at government expense, where ordinary surgery can be taken care of, thus doing away with the excuse of lack of facilities. But this is a subject for other discussion.

641-45 David Whitney Bldg.

STATE BOARD OF HEALTH.

VENEREAL DISEASE DIVISION.

G. M. Byington, M.D., Director.

In November, the question of the suppression of syphilis and gonorrhea was for the first time brought forcibly to the attention of the Michigan State Dept. of Health, as a public health problem, and an issue second to none in importance. The results of the first draft did this. So many men were found infected with venereal disease that some program of action became a matter of patriotic necessity.

The Michigan War Preparedness Board recognized this and has made the campaign financially possible. Michigan has the distinction of being a leader in this national movement for the suppression of venereal disease, having had a very definite plan in operation several weeks before the federal government requested co-operation from the states.

It may be briefly summarized as follows: 1. To treat all infected persons. 2. To clean up conditions of environment tending to increase the spread of the infection. 3. To protect the not yet infected persons. It was started as a war measure, but peace has intensified the need for action.

In November, 1917, the State Dept. of Health declared syphilis and gonorrhea dangerous communicable diseases, which places them on a plane with smallpox, diphtheria and tuberculosis. They are now reportable and quarantinable, by law. The source of infection is also reportable. Patients are given the choice of hospital or home quarantine, home quarantine carrying with it the red quarantine card, now more or less familiar in urban localities. The State pays all expense of hospital treatment.

Through the co-operation of established hospitals, the patients have the use of 286 beds and the medical attention of the best specialists the State affords.

In addition to the hospital care, clinics are being established throughout the State to treat the cases not needing hospital care and to continue treatment of the discharged hospital cases.

SOCIAL SERVICE DEPARTMENT.

Katharin Ostrander, Director.

When the State Board of Health began the treatment of venereal diseases, it felt the need of some social supervision of patients to insure their conducting themselves in a manner to prevent reinfection. To meet this need, the Social Service Department was organized, its duty to be the after-care of all women who have received treatment from the State for venereal diseases. To make this after-care possible, workers have been appointed in each city where the State gives hospital treatment, and in each city or county from which large numbers of girls have been and are being apprehended.

Rather an elaborate program furnishing occupation and recreation for the interned women patients is now in operation in all the hospitals. This part of the work reacts most favorably on the patients.

Mental examinations have proved to be an important part of the work. The routine of these examinations have become so heavy that the co-operating psychopathic clinics which first made the work possible can no longer give it the necessary time; therefore the State Dept. of Health has decided to centralize the psychopathic work in a State psychopathic clinic under the Social Service Dept. The services of a full-time psychologist, a field worker and a secretary have been engaged, whose duty it is to see that all State women venereal patients be given mental examinations during the time they are receiving treatment.

Since the psychopathic work was established, until January 1, 1919, 711 cases have been examined. Of this total number, approximately 79 per cent. are psychopathic to some degree, 24 per cent. of them are feeble-minded, needing institutional care, 3 per cent. are insane or epileptic, 10 per cent. normal. For the 10 per cent. normal women, we anticipate complete and permanent rehabilitation. For the mental cases we will be able to bring about only such social changes as they are capable of accepting. Most of them can be kept at remunerative occupation and be made self-supporting under constant supervision.

All cases of feeble-mindedness and insanity are handled legally as well as medically and every effort is made to place such patients in permanent custody.

Nine hundred and thirty-two women are or have been under treatment, to January 1, 1919. Of this number, 354 are now under observation, the others having been returned to legal residence in other states, placed in institutions for permanent or temporary care or otherwise arranged for.

EDUCATIONAL DEPARTMENT.

Marjorie Delavan, Director.

The educational work of the venereal campaign is in charge of a director, with an advisory committee of five women. The work is carried on by lecturers, pamphlet material, exhibits, placards and posters. The lecturers are both men and women and, with one exception, are physicians. They have talked to all types of audiences, women's clubs, high schools, colleges and normals, farmers' institutes, conventions, mass meetings, factories, business colleges, department stores, church services, industrial schools, business clubs and prisons. Between three and four hundred such lectures have been given, both in the upper and lower peninsulas. There are seven full-time and ten part-time speakers now on the staff and additions are being made frequently. The lecturing staff will eventually include men and women in all parts of the State, ready to fill single requests in their territory, thus obviating the present necessity for long trips. The lecturers talk from a syllabus, designed for the group to be addressed, but latitude is allowed

in their individual treatment. All speakers are sent free of charge.

The distribution of pamphlet material has developed into an important part of the educational campaign. Nine pamphlets are now in use and approximately 350,000 have been sent out. There is no wholesale distribution. A large percentage of the pamphlets have been sent upon individual request and the remainder to group organizations.

A bibliography is issued, listing the best non-technical books on various phases of social hygiene, and the books are sold through the department.

Exhibit work is also developing rapidly and will mean much at county fair time in the fall.

Translations into Finnish, Swedish, Polish and Italian are being arranged.

Posting of placards, framed and under glass, is being carried on continuously and several thousand have been put in the public waiting rooms of the State.

The development of the educational work shows more and more definitely the need. People have to be told of the importance of the venereal disease problem and how it can be met. The response is more than enthusiastic.

SURGERY OF THE STOMACH.*

GEORGE M. TODD, M.D.

TOLEDO, OHIO.

Modern stomach surgery is not more than thirty years old. Bilroth in 1881, published a report of four resections of the pylorus for cancer. Wolfer in the same year performed his first Gastro-enterostomy. This operation which has been the most frequent operation upon the stomach had a very stormy period until arriving at the present perfected form.

The usual operation upon the stomach is gastrectomy, which is indicated when for some cause it is necessary to feed directly into the stomach, such as cancer of the tongue, cancer of the oesophagus and cardiac end of the stomach, or stenosis from swallowing injurious chemicals.

Gastrotomy for the excision of ulcers and control of hemorrhage removing benign growths

*Read at meeting of the Monroe County Medical Society, Dundee, Mich., May 1st, 1919.

and the removal of foreign bodies which cannot be removed by esophagoscopy.

Gastro-enterostomy, the most useful and frequent of all operations upon the stomach, is indicated for ulcers of cardia, anterior and posterior surface. Ulcers of the lesser curvature. Ulcers of the pyloric region and ulcers of the duodenum, stenosis of the pylorus and dilation of the stomach.

Plastic operations upon the pylorus are used in congenital pyloric stenosis and in stenosis from pyloric ulcer.

Resection, either partial or total for cancer.

Ulcer and cancer are the most common of all stomach disturbances. Cancer is claimed to involve the stomach in thirty per cent. of all kinds of cancer that affect the human body. Syphilis, sarcoma and tuberculosis are factors in surgical stomachs, but occur so seldom that they are rarely considered.

As one meets the surgical stomach so frequently, to successfully manage them, certain definite facts must be in mind as a satisfactory working basis. Ulcer symptoms may spell cancer and cases thought to be cancer are ulcer. It is therefore necessary to have in mind this uncertainty all the time. It has been held that cancer frequently develops on an ulcer base, this has been disputed by leading pathologists who claim that the ulcer develops on the surface of the cancer. I am inclined to hold to the older view and believe that every ulcer is a potential cancer.

Persistent pain, local and general, over the region of the stomach and the duodenum. Persistent sour stomach, tenderness over the stomach and duodenum. Vomiting, with or without blood, should point to a more extended examination, in which the laboratory and the X-ray are called to our aid to differentiate between ulcer and cancer. No dependence can be placed on the presence or absence of hydrochloric acid, as we have seen cases with well marked cancer maintain acidity, the explanation being the presence of both ulcer and cancer. The X-ray presents well defined distinction between ulcer and cancer.

After the usual barium meal, a diagnosis of cancer may be made of the filling defects present inwards, that is, impinges upon the lumen of the stomach, or a diagnosis of ulcer made if the defects extend outward and do

not project into the stomach cavity. Of course other more extensive consideration must be given, such as peristalsis, mobility and the filling of the duodenal cap.

The following case will illustrate the difficulties in diagnosis: a man of 45 had been well until four months previous to the time I saw him. His symptoms were pain in the stomach, following eating. Persistent sour stomach, vomiting of blood. Three pints of fluid were lavaged at the first examination, which was six hours after eating. Ewald test meal showed hydrochloric acid in excess and the absence of other chemical substances indicating cancer. X-ray Barium meal, marked outward filling defect. History, physical examination, laboratory findings, X-ray, all pointed to ulcer of the stomach.

Operation, no adhesions, great thickening of pylorus with stenosis. Wide excision, posterior gastro-enterostomy. Microscopical diagnosis, adeno carcinoma.

To those who advocate extended medical treatment for ulcer, I commend the careful consideration of this case. This man is well and happy today. A number of similar cases could be narrated, but this, I think tells the story.

In the history of medicine, we have no recorded example of cancer of the stomach cured by medical means. A study of the history of surgical treatment and the statistics of results show how favorably cancer of the stomach treated by surgical means compares with the surgery of cancer in other parts of the body. A suspicion of cancer of the stomach which cannot be disproved should lead to a surgical diagnosis and exploration.

Gastro-enterostomy is the operation of choice in ulcer and in no class of surgical cases can I point with as much pride as I do to these. The mortality has not been high and the relief offered great. In not a single case of positive ulcer has cancer been an after factor. My experience with this operation covers a period of fifteen years, many are living and well. Are living their usual lives, with little or no attention paid to their stomachs or diet. The most benefit from this operation results in cases of pyloric stenosis, with retention and in dilated stomachs, although in other cases, such as ulcers in the lesser curvature and near the cardiac, splendid success has been achieved. The cure,

we believe to lie in the fact that the acidity of the stomach has been changed and reduced to alkalinity by regurgitating biliary and pancreatic secretion from the bowel in the stomach.

Just a word as to the perforation of ulcers and gastric hemorrhage. The former always calls for excision of the ulcer and posterior gastro-enterostomy, this condition and operation has been followed by a high mortality owing to the period of time that elapsed between perforation and operation.

As to the bleeding ulcer, operative inter-

ference is indicated when the hemorrhage is so profuse that the life of the patient is at stake. I have never seen a gastric hemorrhage result in death, and my plan has been to transfuse blood in the desperate cases. Ice bag to stomach, morphia. Glucose in solution in the rectum, the use of some form of internal hemostat, nothing by mouth and rectal feeding. It is well to remember that hemorrhage from the stomach frequently has an extra gastric cause, such as arterio-sclerosis and hypertension.

THE PART OF THE REFORMATORY INSTITUTION IN THE ELIMINATION OF PROSTITUTION.

Dr. Martha Falkner (Social Hygiene) asserts that prior to the war efforts at suppression of prostitution consisted in closing red light districts. After war was declared, the War Department was empowered to forbid houses of ill fame within certain limits of all cantonments, these limits to be prescribed by the authorities. The penalty for infringement of this regulation was a fine of one thousand dollars, or imprisonment for one year, or both. The first enforcement of the law demonstrated the need of facilities for the custody and rehabilitation of girls and women who were a menace to the men in training. Accordingly, President Wilson set aside two hundred and fifty thousand dollars for providing proper accommodations for the delinquents. It was deemed more expedient to remodel existing buildings than to build new ones. Old "sporting houses" were remodeled as houses of detention, and farm houses and schools became the nuclei of reformatories. Federal aid was asked for the expenses of remodeling and equipment, the community in which the reformatories were established were asked to pay for the upkeep. In this way ten detention houses, three detention hospitals, three city farms, and four reformatories were established. Besides these there were some communities which established houses of detention independently of Federal aid. In all of these institutions the girls and women who were arrested were given physical and medical examination, and sympathetic study pending their trial. This movement became very popular.

A study of these women showed them to consist of silly runaways, feeble-minded girls, girls who could respond to probation, and nervous, undernourished, over-sexed girls, and women who needed special training. All of the girls and women were taught to feel their responsibility to the community, and to recognize the dignity of labor.

Detention hospitals where nothing but medical treatment was attempted proved of no value as reformatory institutions, and the women who were cured of one infection returned time and again with fresh infection.

Experience showed that reformatories should be supported by State laws providing for long

terms of commitment, by probation or protective work to precede commitment, by parole or follow-up work or discharge, and by general interest of the citizens acting through a board of managers.

It will depend entirely upon public sentiment whether or not this work will be continued after the return to normal peace times.

VENEREAL DISEASE IN THE ARMY.

Lieut.-Col. I. W. Brewer (New York Medical Journal) states that as far as infection after entry into the army is concerned the venereal problem has been pretty well solved. The educational campaign carried on for many years and the use of the prophylactic have made new venereal infections very rare in the army.

A majority of the cases were chronic at the time they arrived in camp; 19.4 per cent. were infected after joining the army.

Of 273 cases tabulated, 41 per cent. had been infected for more than three years, during which time they have been a danger to the public.

The experience of the army with venereal diseases during the present war shows that there is a serious venereal problem before our people and that its solution will not be arrived at by any one method of attack, but by a combination of various agencies of which the most important are education, reporting of cases, free treatment of those infected, and the full hearty co-operation of the public. The time is past when the parent in his or her happy home can ignore this problem while the least favored parts of the community are exposed to the temptations of the prostitute.

DEFEAT OF THE OSTEOPATH BILL IN QUEBEC.

The Bulletin Medical de Quebec remarks, "As we might have foreseen, the osteopath bill has been again rejected by our legislators. It did not even succeed in getting into the legislative assembly, and the efforts for it had to be restricted to an attempt to influence the committee on private bills."

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

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June

Editorial Comments

We have a few extra copies of the May issue of the Journal which are on sale at the office of the Secretary-Editor at twenty-five cents per copy.

The County Secretaries are again requested to send us their news items together with the original papers which are read at the meetings. Send us the minutes of your meetings so that your county society may be represented in the Journal.

Because of the many requests for the plates of the pictures which appeared in the Victory number of the Journal, the State Society has decided to sell the plates for a very small amount—much less than the original cost. The full page cuts may be obtained at three dollars each, and the small cuts—five in a group—at \$1.50 each.

TONSILLECTOMY VERSUS HELIO-ELECTRIC METHODS.

Stewart (New York Medical Journal, Jan. 4, 1919) believes that inflamed and discharging tonsils should receive some preliminary treatment by the diathermic method before they are re-

moved. He further favors fulguration. He advises in some cases the Kromayer lamp, and quotes McCaskey to the effect that after reducing an enlarged tonsil by ultraviolet ray there may be a return of tonsillar trouble unless the patient's nitrogen metabolism has been placed under a proper equilibrium. At the Johns Hopkins Hospital both tonsils and adenoids are considered as physiologically important structures, which besides their unknown purposes protect the lungs from dust and disease germs.

Tonsillar and nasopharyngeal diseases have caused infections and rheumatoid arthritis, lumbago, acute rheumatic fever, enlargement of cervical glands, and kidney inflammation. The course of infection from the tonsils to other parts of the body is thus established beyond question, and the indications for the treatment of tonsils and adenoids is clear and rational, but tonsillectomy is not the only method of treatment. It is therefore of great importance to study the report of the 1000 operations of tonsillar and nasopharyngeal infections as a cause of systemic disease, as reported by the Johns Hopkins Hospital. These cases were seen and carefully studied during the last five years. There was no haphazard and hurried examination, the operations were performed under the strict rules of modern surgery, skilled anesthetists and trained assistants were a part of the rigorous operative routine, and the cases were followed up to secure the facts with respect to the diseases supposed to be due to the tonsillar and adenoid infection.

The result of the experience gained in the foregoing study given to these 1,000 cases of tonsillar and adenoid infections may be summed up as follows:

Tonsils and adenoids should not be operated upon during the acute stage of a tonsillar inflammation, as a brain abscess may result.

Diabetes is just as much a contraindication for tonsillectomy and adenectomy as it may be for any operation under general anesthesia.

Tonsillectomy is rarely of benefit and may do harm in the deforming type of arthritis.

Nothing is to be gained from a tonsillectomy during the acute stage of chorea, acute rheumatic fever, or endocarditis.

The Johns Hopkins surgeons state that, in their experience, the very diseases for which tonsil and adenoid operations are performed may and do recur after the nose and throat have been put into a normal condition.

In any event the tonsils are not the only gateway for disease germs to gain entrance into the system.

Tonsil operations are justified only as a means

of possibly preventing further heart infections as a result of later attacks of acute tonsillitis.

The frequency of heart and joint affections in chorea may justify the preventive measure obtained by tonsil treatment.

Tonsil treatment is indicated in the infections, joint affections, and in muscular pains of myalgia.

In the early stages of kidney inflammation, tonsil treatment is indicated.

The tonsils are the main cause of enlarged lymphatic glands near the angle of the jaw, as these large glands in the neck rarely subside after treatment of diseased teeth.

Tonsil treatment alone will not cure tuberculous glands, rheumatic joint disease, nor kidney inflammation.

Makuen in an address to the Clinical Congress of Surgeons says: "The capsule of the tonsil is even more essential to the normal structural relations of the pharynx than the tonsil itself, and its removal is to be deprecated from the standpoint of one who has any regard for the phonatory and articulatory function of the adjacent muscles." The complete removal of the capsule of the tonsil robs the interpharyngeal musculoaponeurotic sheath of its main support. This is the reason for a collapse of the pillars of the fauces. The removal of this supporting structure likewise increasing the wound area and causing an anatomical change in the faucial relations, is the deplorable result.

Of interest in this connection, the following data have been obtained by the author, in correspondence with 1,000 physicians in Ohio, Indiana and Kentucky:

Total number of tonsil operations, 10,756; deaths, 15; deaths in five out of seventy-one large cities written to, 18; primary hemorrhage, 432; secondary, 79; ligations for hemorrhage at time of operation, 488; hemophiliacs, 26; prolonged coagulation, 54; voices lost, 4; voice tones gained, 2; septic cases before operation, 252; septic cases after operation, 9; fatalities from ether, 2; fatalities from bromoform, 1; fatalities from oxygen and ether, 12; cases needing stimulants after operation, 55; diphtheria after operation, 8; bronchiectases after operation, 3; pulmonary abscess after operation, 1; hyperpyrexia after operation, 14; emphysema of face after operation, 1; skin rashes after operation, 8; dryness of throat, many replies stated frequent, 39; adhesions of pillars, many replies stated frequent, 21; ear infection, many replies stated frequent, 35; shock, many replies stated frequent, 19.

These statistics are brought to notice to direct attention to the facts:

That tonsillectomy does not insure against

future attacks of sore throat, nor of other diseases and infections for which the operation is done.

That tonsillar tissue is present in nearly one-half the cases after operation, and not always to the detriment of the patient nor a reflection on the operator.

That helioelectric, fulguration, and diathermic methods do not accomplish more than the cutting operations, their value being in the equally good results to be obtained in selected cases in comparison with the cutting methods; less the risk to the voice and of death from anesthesia, or uncontrolled hemorrhage; and without the shock to the patient from undue hemorrhage when the latter is controlled.

That badly diseased tonsils should be enucleated whether large or small unless some unusual factor contraindicates the use of general or local anesthesia, in which case secure the best results possible by helioelectric methods.—The Therapeutic Gazette, April 15, 1919.

STATUS LYMPHATICUS.

Status lymphaticus is a condition usually seen in rachitic children where there is an enlargement of the cervical axillary and bronchial groups, of the glands at the angle of the jaw, adenoids, enlargement of the tonsils both faucial and lingual, Peyer's patches, and especially of the thymus. This condition is interesting from its frequent causation of sudden death during anesthesia for some simple operation. Escherich believes that the pathological condition of the thymus causes a form of acute intoxication, with cardiac syncope and paralysis. The thymus enlargement in such cases of sudden death is usually enormous. Reich gives the absolute normal dullness of the thymus as irregularly triangular with its base formed by the line connecting the sterno-clavicular articulations, and its blunt apex at the level of the second rib, while its lateral boundaries correspond approximately to the size of the sternum.

A little more than half of the gland falls to the left side. Thymic dullness greater by a centimeter than these is pathological and even the normal dullness disappears at the fifth year. Symptoms of enlargement are principally stridor in breathing, which is increased on flexing the head, thus interfering greatly with the child's nursing especially from the breast.

There is increased dullness which is best made out by percussing with the child's head low and extended, and X-ray examination reveals an increased area of shadow.

These children require great care, as sudden

death is common and one must be particularly careful in giving them an anesthetic. Marked cases of thymus enlargement show a weight of the gland even up to thirty or forty grammes, although the normal weight is six to seven grammes at birth, and three to four grammes from birth to the fifth year, when it atrophies.—Long Island Medical Journal.

THE PRACTICAL APPLICATION OF ETHICAL ECONOMICS.

To the Editor of The Medical Times:

Prior to this war various evolutionary forces, without intelligent aid or organized assistance on the part of the medical profession, gradually compelled and are still compelling the followers of medicine into:

1. Accepting the specialist.
2. Demanding hospital facilities.
3. Associating and segregating into more or less organized groups.
4. Establishing private clinics, as the Mayo Clinic and similar institutions.
5. Establishing, as just instituted by Columbia University of New York, a still more advanced form of scientific medical organization, a clinical laboratory.

The same evolutionary forces have caused the laity:

1. To form mutual benefit organizations for the sick.
2. To demand contract practice.
3. To form hospital associations.
4. To demand state aid.
5. To demand free clinics.

In every one of these vitally important politico-economic movements, and in view of the fact that millions of men will return after the war and demand for themselves and for their families the same scientific treatment they have experienced under military organization, medicine as a profession has failed to recognize the same exciting cause in each instance—an economic demand that the theoretical standard of efficiency "Medical Ethics" must be replaced by a more practical standard, "Ethical Economics." This standard demands the application of scientific methods through economic organization to every-day life, so that efficient medical and surgical treatment will come within the reach not of the few who can receive hospital treatment in standard institutions but of every human being.

Confronted by the above politico-economic facts, a very pertinent question presents itself to the medical profession at large: What is medical organization—medical education—doing to solve

these problems, at a time when an imminent reconstruction period confronts every form of organized society including the profession of medicine?

Based on observation and experience of 20 years the writer claims that virtually nothing practical has been systematically undertaken.

Nowhere is there evidence that medical organization—medical education—has ever recognized three basic psychologic factors that govern all intelligent human acts:

1. One hundred per cent. of the representatives of medicine, physicians, are human beings, and the minds of the highest and lowest are compounded of the same elements, held subject to the same laws of action; and the knowledge that any one of them possesses comes—as it does to every other human being—through the ordinary channel of the senses.

2. In the search for knowledge in every branch of human society, including medicine, science has produced innumerable mechanical aids to increase the efficiency of the senses of man. Therefore, logically, all things being equal, the mind of man gathers knowledge in proportion (a) to the number of mechanical aids employed to increase the efficiency of the senses; (b) the accuracy with which these aids are employed.

3. As a rule normal human emotions govern every human being, including the physician. Therefore, if the recompense for labor does not enable the physician to carry overhead expenses; does not give him time and funds for improvement, study, travel and necessary recreation; does not produce profit that is protection for his family and for himself in sickness and old age; he can neither give efficient scientific service nor continue to progress. If adequately recompensed he can give scientific service far more readily and is more likely to progress.

Yet in the face of these obvious evolutionary politico-economic movements and the basic psychological facts that govern intelligent human action, medical education is still demanding for every individual admitted to the study of any branch of the science and art of medicine a high standard of preparatory education, in substance a B. A. degree from a recognized educational institution.

This standard, combined with the principles of education that are employed in every medical college after admission to study is such that it can be justly claimed that the educational methods pursued tend to make the graduate physician in this work-a-day world pursue the practice of medicine as a pure science, that can isolate itself, that needs no association with the

applied sciences, especially economics. For instance, medical education during all these years has apparently never conceived of the practical necessity of recognizing the psychological fact No. 1 as a pre-educational factor of utmost importance.

The United States Government, on the other hand, by the present war has been unceremoniously forced into recognizing its educational value—as evidenced by the first standard of admission to the aviation service, where the highest possible human skill is required in order to successfully destroy life. In this initial examination the most accurate possible physical and mental tests are employed in order to ascertain not only the inherent character and personality of the candidate, but more especially the acuteness, stability and durability of every one of his senses.

In the profession of medicine, however, where there is a demand, if it were possible, for even greater character and personality, acuteness, stability and durability of the senses—the object of the physician being to preserve life—no recognition is given to the fact that efficiency in applying abstract knowledge depends upon the efficiency, not of one but all of the special senses.

The student of medicine may be deficient in one or more of his special senses, have little tactile sensibility, a poor sense of smell or hearing, defective eyesight, little character and no personality adaptable to a physician. Yet no tests are made to ascertain or correct these defects, and the student is graduated and permitted without any organized supervision to try to preserve—where he would not on the same grounds be permitted to destroy—life.

As to the educational value of the psychological fact No. 2, there can be no question that the mechanical aids of scientific medicine (which include all laboratory methods, even history filing and compilation may be added) have become so numerous, have so developed in detail that to attain efficiency requires not general but definite technical knowledge.

There can be no question that medicine will become organized in the future, and when so organized it can be no exception to the general rule and must attain efficiency by having subdivision of labor—therefore organization of labor and equipment.

Medical education as conducted to-day may be ethical but it is still decidedly theoretical. Medical schools virtually only graduate officers and then only colonels. No provision is made for officers of lesser rank, for the privates in the form of technicians. For privates, we as a profession, must take the unsuccessful physician, volunteer

nurse, half-trained office girls, or any kind of unskilled help available, when each physician must train for himself after his own sweet will in order to fill the ranks of scientific medicine with privates. Yet economic organization is staring the profession in the face. With this army thus organized we guarantee to defend the public from disease—then wonder why our efforts as a profession are not appreciated!

Even the colonel, who may later wish and be willing to work for a higher rank—for instance to become a specialist—there is no institution provided where through concentration of skilled leaders, equipment, technical assistance and economic organization he can learn his specialty from A to Z, and be instructed and equipped with a modified plan of economic organization, whereby he can do justice to the public and his profession by maintaining and delivering the high standard of goods which he advertises to sell in competition with the inferior grades of the cults by attaching to his name an “M. D.”

As a profession, in most of our medical colleges, we unquestionably try to manufacture a high standard of goods, which goods must be sold in the open market to the public. We advertise to the public that the sign “M. D.” signifies the highest standard. Yet as a profession have we adopted any organized means whereby we can demonstrate to the buyers, the laity, the value of standard “A” as compared with the imitation “B,” and in so doing increase the demand for standard “A” goods, to the benefit of both producer and consumer? I think not.

The public through universal education is being taught to think, to reason, yet the medical profession to-day, like the cults, is asking the public to accept goods on faith without investigation; and we claim as a standard science based on reason, not wholly on faith.

If the profession of medicine will not undertake to solve these politico-economic problems for itself, it is true that evolutionary forces will solve them for us, but with brute force and a corresponding indiscriminate destruction—unless man employs the intelligence that nature has given him to anticipate evolutionary movements, through the use of intelligence scientifically applied but governed by the higher human emotions.

It is not within the limits of this letter even to outline the means to the end that experience suggests. But the old adage always proves true that where there's a will there's a way.

The object of this letter is to arouse, with your assistance, sufficient sentiment to instigate a systematic, organized movement to attain the end

sought—the practical application of ethical economics; so that humanity may be efficiently served by the profession of medicine, and the profession win universal respect and attain efficiency through following out not only ethically but economically the dictates of the noblest of all the sciences.

G. S. Peterkin, M.D., Seattle, Wash.

—Medical Times, March, 1919.

WAR-RISK INSURANCE.

The secretary of the Treasury, Mr. Carter Glass, recently published a statement on the subject of War-Risk Insurance and the so-called Compensation, and this well may be reproduced in this place, inasmuch as physicians, especially in country districts, may be asked for their opinion on these matters. Consequently, we print the Secretary's statement in full:

"Considerable confusion and much misunderstanding seems to prevail among the relatives and beneficiaries of men in the military and naval service as to their rights under the War-Risk Insurance Act. Many mothers and fathers named as beneficiaries of the Government Insurance applied for by their sons have gained the impression that they must prove dependency, in order to receive payment of insurance. This is an entirely erroneous impression, probably owing to a confusion of the insurance and compensation provisions of the Act of Congress of October 6, 1917, and to a mistaken assumption that the terms 'Insurance' and 'Compensation' are used interchangeably, whereas, they represent two entirely separate and distinct benefits.

"Insurance is payable regardless of any dependency and the beneficiary designated in an application for Government insurance, if within the permitted class of spouse, child, grandchild, parent, brother or sister, is entitled to receive the insurance in monthly instalments, without proving any dependency upon the insured.

"'Compensation,' however, which is separate and apart from insurance and takes the place of the pensions provided under the old pension-system, is payable only to a wife, child, dependent mother or dependent father of a man that is disabled or dies as a result of injury suffered or disease contracted in the line of duty while employed in the active service. Compensation may be payable in addition to insurance, but, a mother or father must prove actual dependency, in order to receive monthly payments of compensation, although they will receive the insurance in monthly instalments if named as the beneficiary thereof, whether they are dependent or not.

"No dependency need be shown by any beneficiary in order to receive the Government insur-

ance; but, a mother or father must prove actual dependency upon their deceased son for the necessities of life in order to receive the additional payment of compensation."—American Journal of Clinical Medicine.

CANDY AND CALORIES.

With the after-war return of the nation to its normal mode of living, there are evidences on all sides of a relaxation of the strenuousness of the program of conservation. Wheat, meat and sugar are no longer restricted in their distribution in the ways that the voluntary rationing schemes of last year demanded. It is reported that the candy manufacturers who have been so severely hampered by the necessity of producing sugarless sweets, are preparing for an increase in their business in the near future. We are told that the people of this country are learning that "candy is as healthful as it is delicious," and that "candy has more calories per pound than any of what are regarded as the ordinary dishes served at meals in the American household." Even the low score of caramels with only 1,400 calories per pound exceeds all but corn and rice among the more familiar dietary components; while milk is left quite in the background with a mere 800 calories per quart. We have no quarrel with candy lovers or with manufacturers of delicious sweets. Sugar and nuts and fats which enter into common confections are usually as digestible as they are toothsome. Having succeeded in educating the American public in some degree to the real meaning of calories as measures of food fuel, our experts in nutrition are face to face with a new problem in popular education. The public must now be taught that food values are not expressed in calories alone any more than miles-per-gallon of gasoline are the sole criterion of automobile excellence. A properly selected diet represents the inclusion of many items, some of which are not to be evaluated primarily in terms of calories. Every one ought to appreciate, after the nation-wide propaganda for more milk, that the latter food represents nutrient virtues that put it into the cheap-at-any-price class. The green vegetables contribute factors to our diet that candy can scarcely imitate. Even raw meat proved to be a blessing to Stefansson with which the choicest "package goods" could not compete when his party was threatened with scurvy during their sojourn in the Arctic regions. It has been asserted that sugar and sweets, though valuable fuel foods, are dangerous for children unless the use of these articles is carefully controlled. Writing in the manual of the United States Food Administration, Dr. Ruth Wheeler states of

sweets: Because of their flavor, it is only too easy to eat too much of them. They are likely to cause digestive disturbances, to take away the appetite for other more valuable foods if eaten at the wrong time, and therefore indirectly to cause anemia and bad teeth. Obviously, they are entirely unbalanced foods, supply only fuel and no building materials in any permanent sense of the world. They must, therefore, supplement and not replace other food. In moderation, as dessert after a good meal, they are in their proper place." This expresses the crux of the matter: Everything in its place—including candy. To propose that even the most delicious confection shall replace bread and butter, fruits and vegetables, meat and milk, is preposterous. Let candy rest on its long won laurels.—*Journal, A. M. A., May 3, 1919.*

"BIG STUFF."

I often wonder if the rest of the world is like the Dental profession. It seems that we have more braggers and liars than any other profession I know of. However, my experience in the world has been limited and I know best of all the dental profession. Just the same it is disgusting to listen to some of this "Big Stuff" that is peddled out by some of our brethren. Many of them are good fellows outside of their ability to stretch the truth. I often wonder why more of these fellows don't succeed better in life than they often do. According to their own statements they are "some" dentists and also that, they never "fall down" on any proposition. They are always successful and full of criticism for the lesser lights in the profession.

I have in mind at this moment a young dentist who is now in France. He was a good fellow in France. He was a good fellow in many ways but his middle name was "Big Stuff." He always was 100 per cent. perfect and he admitted it. I talked to his successor the other day and I asked him "How is Business?" His reply was this: "Business has been fair. It would have been easier for me to get started in ——— if my predecessor had not been such a poor operator." Well you see things from both angles and then you realize that there is often two sides to a story.

I remember at another time listening to the spouting of a real doctor. He is a regular surgeon and limits his practice to same. He lectured to a society of dentists where I was present. Many X-ray plates were shown of various conditions which were results of decayed teeth, (so the doctor stated). It's wonderful now-a-days how much the M. D. can lay at the door of the

dentists and also more wonderful how well he can criticize the dentist's work. I really think it is the wonder of the 20th century how wise some of these fellows have become since they began reading a little dental literature.

Another M. D. was called to see a child who was ill. The doctor removed the glands from her neck and when she was well enough to get out of the hospital he told the father to take the child to a certain dentist and have a certain tooth removed as it was rotten, suppurative and was causing all her trouble. Well the child came to me instead and after carefully examining the mouth I asked the father to point out the offender as I could see nothing wrong. He pointed to a certain tooth and stated that was the one to be removed. I questioned the patient and she gave no history of pain of any kind so I tested the tooth and found it vital. The only thing wrong with this tooth was the fact that some dentist had been guilty of placing a fine restoration in this tooth with copper amalgam and of course a trifle discolored. Again I say "Big Stuff."

Dentists as a rule are the best fellows on earth, but they are too often inclined to brag about their ability to perform dental work or how much money they are pulling down. Some seem to set their mouths going and then go away and let them run, never realizing that the poor misguided public takes this all in and may believe it. It's mighty easy to say "My income tax was over \$600 this year." That don't cost anything to simply say it. The public think of all those things when the Sears Roebuck catalogues come along and the Advertiser from the large towns announcing "Two Dollars Worth of Dental Work for a Dollar." Many think that talk is cheap, but we also know that it often is the "still sow that gets the swill."

It is amusing to get with a bunch of "Spanish Athletes" and listen to the champions throw the "Bull." You must admit that some of the boys are good with this "Stuff."

On the other hand we have the fellow who has been a tight-wad all his life; inherited a bunch of money possibly and also invested in land maybe, and the stuff went up and he became rich in spite of himself. It sure makes you tired to hear a fellow of this type always saying, "I cannot afford it," and often saying it so it becomes a part of his usurious soul. We have this class of birds as well as the fellow who is telling you about his worldly goods, but is a "C. O. D." with the supply houses.

Another good stunt is some of this so-called specializing. About all a fellow has to do to become one, is to announce it to the public and go

to work. The bigger the commissions, the bigger the specialist. However, real specialists are O. K. and should be encouraged. Many men could and do become good special men without a training abroad or elsewhere. It's always up to the man himself.

It also makes a fellow a trifle tired to listen to some fellow who fits glasses and carves adenoids and tonsils for a living setting himself so far above his fellow man; who scoffs at the dentist and calls him a mere mechanic. We have plenty of this variety, too, and often their knowledge of dental subject is a trifle crude. These fellows frequently spot the glint of a gold crown and they have been known to remark, "Get that tooth out, you ought to now better than let some foolish dentist put such a thing in your mouth." There is no use trying to tell these fellows that the root is the part that becomes infected and not the crown. They would pass this same case as A number one if the crown was missing; and as to a porcelain tooth, they never recognize it at all. It's the shining gold they are after in more ways than one. I have decided the only way to handle this class of doctors is to "treat 'em rough" and tell the prospective patients to see Gifford for their eyes.

After all, none of us are perfect and there is some good in most of us. We all have to try and learn each day. Be charitable to each other and if we will treat the other doctor as we would like to be treated, we all will succeed. We should remember that this "Big Stuff," being peddled in a million different forms will bring us all grief sooner or later. There is still much for even the wisest man to learn.—Dental Facts by Bradley F. Lockwood, D. D. S., Yankton, S. D.

RESPONSIBILITY OF THE TEACHER OF HOME ECONOMICS FOR HEALTH HABITS OF HER PUPILS.

One of the many responsibilities of any teacher is interest in the health of those in her charge and in providing healthful conditions for their school activities. But this responsibility is emphasized in the case of the home economics teacher, since nutrition, shelter, and right living, the three most vital factors in the maintenance of health, are her particular province.

The well-planned course in foods, including the study of their preparation and use, should fit the girl or woman to select those foods which are most healthful for herself and her family. The study of clothing includes selection as well as construction, and hygiene is one of the factors governing selection. The maintenance of the

health of the family is one of the big problems of the home maker. The training of either girls or women in any of these lines should be of such a character that immediate application is made of the principles involved. The teaching of foods or clothing to a class of girls has failed if what she has learned is not applied in her daily life. For instance, having studied the selection of food for body needs, does she order a good nutritious meal at the school lunch counter or bring such a meal in her lunch basket? Understanding the hygienic properties of various fibers and materials, does she clothe herself properly? Does the woman who is taking a course in home management arrange for healthful living conditions for herself and her family? These practices taught by the home economics teacher and added to and strengthened by the teachers of related subjects, such as physical training, general science, and physiology and hygiene, should become the health habits of the girls and women.

The ways in which these habits can be developed by the home-economics teacher are manifold. Example is stronger than precept, and the teacher must practice what she preaches. She is usually a very busy person but she is expected, and should be expected, to look healthy, well-dressed, capable and happy. She should never be seen eating a badly chosen meal, wearing an unbecoming or unsuitable gown, or performing her duties in an unsystematic or inefficient manner.

A second means to the end is the subject matter of the courses. Do the courses in food, clothing, and home management provide material and time for work on their health phases? Is the laboratory practice for these phases well developed? Does it receive attention even in the elementary courses?

The length of time for a task should be regulated to the physical ability of the child and this implies knowledge of the physical nature of the child on the part of the teacher.

The method of presentation of the subject matter should be adapted to this end. The work should be made alive and practical, the students should be inspired to apply principles and should develop an attentive and critical attitude toward conditions which affect their health.

The equipment of a laboratory is not always within the control of a teacher, but she should attempt to have her laboratory approach ideal conditions. The ideal laboratory is so equipped that the maximum amount of work can be done with the minimum expenditure of energy. The laboratory, like the teacher, sets a standard for the student. Working areas should be of such size,

shape, and height that correct postures can be maintained without effort. The teacher should insist upon correct sitting, standing, and working positions. Light and ventilation should be noted and carefully regulated. The members of the class should be taught to note and correct these conditions for themselves.

This question of health habits is a part of that fundamental interest of home economics—right living. As such, the home-economics teacher should see her opportunity for developing health habits and make the most of it.

Zella E. Bigelow.

FELLOWSHIP WITH GERMAN DOCTORS.

In a recent number of the *Medical Record* Dr. W. W. Keen contributes the following letter:

I have thoroughly approved of your recent editorials as to German doctors, who, when peace is declared, it is reported, are actually, proposing to come to America and enter into practice!

At the close of the "Appeal to the Civilized World" of the ninety-three German Intellectuals among whom appear the names of von Behring, Ehrlich, Haeckel, Neisser, Roentgen, Rubner, Waldeyer and Wassermann, all doctors, they say:

"Have faith in us! Believe that we shall carry on this war to the end as a civilized nation to whom the legacy of a Goethe, a Beethoven, and a Kant is just as sacred as are our own hearts and homes. For this we pledge you our names and our honor."

One of their thus accredited statements is that "the German army and the German people are one." Let us see what that army did.

The armistice requires the German army to point out the wells that they have poisoned! So far as I know, this is the only occasion in history in which an act of barbarism has been officially confessed!

Their atrocities in Belgium, France, Poland, and Serbia are known to thousands of witnesses. Those barbarities were the work of the army, with which, we are assured, the German people "are one."

They initiated the horrible poison-gas warfare.

They permitted the "unspeakable" Turk, their welcome Mohammedan ally, to murder by wholesale the defenseless Christian Armenians, including thousands of women and children.

Yet poisoning wells, using poisonous gases, and murdering innocent civilians—men, women and children—are all prohibited by solemn treaties signed by Germany. But treaties are only "scraps of paper" to Germany.

And after all these atrocities and these con-

stant violations of international law do these German doctors dare to come here and propose to obtain a living here as medical practitioners?

Never was there a more insolent proposal. The Germans are whipped, but still defiant; beaten, but still unregenerate. Witness what Hindenburg said to his army two days after the armistice: "We leave the fight, in which for more than four years we have resisted a world of enemies, proudly and with heads erect." They must be taught many stern lessons in humility instead of the haughty arrogance which has been their national trait for years. If they dare to come, I hope that no American doctor will ever take any such man by the hand, and that no American medical society will admit a single one to membership. They may be sure that few, if any, American patients will ever patronize them. Let them stay at home.

In time, when as a nation they have repented of their sins and brought forth fruits meet for repentance, and especially when a younger and better and cleaner generation has come on the stage, then, and not until then, may they be received into civilized society.

CHIROPRACTIC BILL TWICE DEFEATED.

A bill providing for a separate board for the licensing of chiropractors was defeated in the California legislature on March 26, by vote of 39 to 38. It was reconsidered on April 2, and again defeated, this time by a vote of 42 to 32.

Correspondence

LETTER FROM COBLENZ.

March 17, 1918.

Yesterday evening, I spent in Coblenz. This was 2 days after the great review of the First Division by Gen. Pershing. One of the aids whom I met in the Officer's Club told me the general was tickled foolish over the review; that he kept rehearsing it and smiling over it all through dinner that night. And I must admit that it was an interesting show although insufferably tedious. Imagine a great natural stadium formed by the hills—a mile long by more than half a mile wide, covered with a short greensward. Beginning at 11 o'clock in the morning, the various organizations, coming from every direction, began pouring over the edges into this bowl. There were the infantry regiments, the artillery with their long dark lines of carriages, the lively, light, mule-pulled machine guns, the engineers, the signal corps, the various staffs mounted on spirited

horses, hoards of glittering brass bands and a gallery of townspeople and camp-followers. The division drew itself up in ranks on the south side of this huge stadium, each organization taking its allotted section on the slope, with all the bands, now merged, in the center. The audience took its place on the opposite side. It saw 25,000 soldiers in that bowl all at once, and under arms which, of course, makes the effect slightly different from that of the crowd at a Harvard-Yale game. I could not but think of the power that lay in that complete though small army of thoroughly seasoned and trained men. With it, Washington could have won the Revolutionary War in about one hour. By reason of the artillery and the machine guns, it would have turned the tide for either side in the War of the Rebellion in less than a week. Napoleon never would have lost Waterloo with that army to boot. There we stood until half past two, waiting for the General, much of the time at attention. Only the band, now 150 strong, broke the monotony; nothing took the edge from the chill. At last having finished his dinner in some comfortably warm room in Montebaur, the general burst like a sunbeam over the hill opposite, mounted upon a matchless horse which he handled beautifully, and surrounded by those lesser well-dressed luminaries, his staff. I want you to understand that the general is a magnificent creature to regard. On foot, he passed through every file in the entire division, speaking personally to many of the officers. The waiting was interminable. About 5 o'clock he called all the officers and non-commissioned officers to the reviewing stand and made a speech which might better have been omitted. Then those to be decorated—about 60—marched across the field, all abreast, to the strains and grunts of the band; and the general, preceded by a crier and followed by a pin-fastener and by Generals Dickman and Hines, stuck the appropriate medals upon the breasts of the candidates beginning with the general at the head of the line and finishing with a little doughboy at the end. As he passed along, he spoke to each man and shook him by the hand. Thus I got my long-deferred D. S. C. That ceremony being over, we all stood by the general and watched the review as the division moved out of the amphitheatre. Although most of the organizations had risen early in the morning, marched from 5 to 10 miles and had stood about 6 hours in the cold with no other food than a hunk of bread, they now passed by with the step of a panther. They were under full pack. The lines were irregular, there was no marked time, there was no goose-step. But that great thick graceful column, moving so easily, so silently on

the soft turf, producing in the beholder such a sense of reserve force, is a sight which will always remain in my memory. It looked as though it could have marched all night. Individually they looped along easily. "A great division" was the truest thing that General Pershing said.

The next was the night of Col. Billy Dodd's party. Not caring much about dancing, it fell to my lot to entertain an old brigadier general similarly disinclined. We poured many libations so that "sick call" was an arduous ordeal for me at 7 the next morning. However, I have recovered at the present writing.

W. W. Manton, M. R. C.,
Captain 6th F. A., First Division.

New York City, May 7, 1919.

Journal of Mich. State Medical Society,
Grand Rapids, Mich.

Gentlemen:

I am enclosing an article taken from the report of a conference of shoe manufacturers recently called at our headquarters. The idea of such a conference grew out of the results of the physical examinations made by the Division of Health of our Bureau of Social Education, in its endeavor to promote health among women. Within the last 4 months such examinations have been given to various groups of girls in different occupations, and there has come forcibly to our notice the fact that an overwhelming number of women are wearing shoes, which, with narrow pointed toes, inflexible shank, in most cases high heels, pinch the foot, cause bad posture, and so incapacitate the wearer for freedom at work and necessary normal exercise, all of which affects the general physical condition.

The shoe manufacturers who conferred with us on this question, showed great interest, and with their help we hope to encourage the wearing of good shoes, and make the purchase of them possible in all cities and towns in the United States. May we not have your co-operation in putting this matter of wearing good shoes forcibly before the readers of your paper? It will mean to the general well being of the American women to have the students and graduates in Physical Education, Medicine, and Nursing take a definite stand in this foundation for good posture, health and efficiency.

Yours very truly,

HARRIET WILDE, Director Physical Education.

A Normal Shoe For a Normal Foot.

Can the shoemaker build a shoe that will keep normal a normal foot? And having built it will the public be brought to see the beauty of the

product? Not so many years ago we gave our admiration to the small, tightly laced waist. To-day we laugh at it and to-morrow we shall be equally amused by the pencil-point toes and high heels that tilt the human foot to the angle of a horse's hoof. The war made low heels beautiful on Fifth avenue, and consequently on Main street; if it had lasted a little longer, women would, of necessity, have gone the whole way with the shoe problem. The shoes of the future will not be "prescription" shoes, they will not cater to deformities, but they will be built to conform to the normal lines of the foot.

The National Board of the Young Women's Christian Associations through the Health Division of the Bureau of Social Education, has started a drive to get this shoe for American women and to popularize it. The Associations have all the health arguments. They have a national membership of four hundred thousand women to listen to them, but they cannot get this shoe without the co-operation of the manufacturers and dealers who make the shoes and determine the styles. To bring about this co-operation, a conference with leading shoe men was held recently at the National Board Y. W. C. A. headquarters in New York.

The manufacturers have a difficult problem, but not an impossible one. They must produce a low shoe, with a low heel and a flexible shank that will allow enough exercise of the muscles of the arch to keep them strong, a shoe with enough room for the toes and a straight inner border because the foot is naturally straight on the inner side. They must make the shoe attractive to the discriminating taste by using their knowledge of leathers to procure variety and fineness of finish for both day and evening wear. Will the shoemaker do it? When he does, the National Board of the Young Women's Christian Asso. will be back of him. Every woman who wants to wear the "normal line" shoe must be able to get it. All samples of shoes will be examined, an alphabetical list made, according to States and cities, of all the firms that carry these shoes.

This list will then be sent to local Associations all over the United States, so that no one can say, "We would like to get these shoes, but we do not know where to find them."

Pueblo, Colorado, April 24, 1919.

Dr. F. C. Warnshuis,
Michigan State Medical Society,
Grand Rapids, Michigan.

My Dear Doctor:

I have taken the liberty of asking the management of the American Medical Association to send to

your address blank applications for membership in the Medical Veterans World War, for the convenience of physicians in your Society who desire to join this organization.

The former Medical Aide to the governor in your State has been requested to further this work and will appreciate the assistance you can render him at your annual meeting.

Assuring you that your co-operation will be appreciated, I remain,

Fraternally yours,
HUBERT WORK, Temporary President.

Chicago, Illinois, May 13, 1919.

Dr. F. C. Warnshuis, Secretary,
Michigan State Medical Society,
Grand Rapids, Michigan.

Dear Doctor:

In compliance with a request received from the temporary president of the Medical Veterans of the World's War, we are sending you, under separate cover, a supply of forms for making application for membership in that organization, and also three copies of the Constitution and By-laws. Similar forms have already been placed in the hands of the physician who served as Medical Aide to the Governor of your State.

We are advised that Dr. Work, the temporary president of this organization, has already written to you relative to this matter.

Yours very truly,
ALEXANDER R. CRAIG,
Secretary American Medical Association.

Application for Membership in the Medical
Veterans of the World War.

.....
City County State
.....
Number Street
.....
Date

I hereby apply for membership (or associate membership) in the Medical Veterans of the World War. I served during the period of the war as indicated below, as

1. An officer in the Medical Corps of the United States Army.
2. A Medical Officer in the U. S. Navy.
3. A Medical Officer in the U. S. Public Health Service.
4. A Contract Surgeon, United States Army.
5. An Acting Assistant Surgeon, U. S. Public Health Service.
6. A Medical Member Local Board No. at

7. A Medical Examiner Local Board No.
at

8. A Member of the Medical Advisory Board
at

I was appointed to the position checked above
by

I served from
to

I served in during
(The U. S. or in a foreign country; state where)
the period from
to
as
.....
(Brief history of service, giving units, dates
and positions held; use reverse of this sheet
and attach additional paper if necessary.)
..... M.D.
(Full name of applicant.)

Application for membership, with fee of \$1.00, should be mailed to the Secretary, Col. F. F. Russell, M.C., U. S. Army, Army Medical School, Washington, D. C.

Copies of the above application blank for membership in the Medical Veterans of the Worlds War have been received at this office from the American Medical Association and will be furnished anyone on application.

It is incumbent upon all who can avail themselves of this opportunity to become members.

Deaths

The death of Doctor E. J. O'Brien of Cheboygan has been reported. His death occurred in Detroit.

The deaths of the following doctors not members of the State Society have been reported: Doctor Harry G. Lundgren of Ironwood, and Doctor Elizabeth Pope Wescott of Lansing.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

PRACTICE.

Central Michigan town of 700. A No. 1 school, Baptist and Methodist churches. Very fine farming section. State roads. Average better than

eleven months yearly with machine. Good fees. Collected \$7,800 last year. Books open for inspection. All you can do from start.

Fine modern ten room home, furnace heat, electric lights, hot and cold water. Garage. Good three room office. For quick sale \$3,500. Terms one-half down balance to suit. Investigate. Reason: Special work. Address c-o State Medical Journal.

THE STUDENTS' LIBRARY ASSOCIATION of the Middlesex College of Medicine and Surgery solicits donations of Medical and Scientific libraries, Medical books, bound and unbound volumes of back numbers of Medical and Scientific Magazines, and funds for current American and foreign Medical Journals, Jennie Hraba, Class '21, Association Secretary University of Massachusetts School for Medicine, East Cambridge, Mass.

CANDIDATES LICENSED BY EXAMINATION, FEBRUARY 20, 1919.

Russell Wilbur Alles, Detroit	86.3
Joseph Bleier, Detroit	76.3
Ernest Anderson Cook, Fenton	80.1
Joseph Meryl Croman, Mt. Clemens	81.
Thomas Stephen Davies, Detroit	81.4
Chester A. Doty, Detroit	82.
George Henry Doyle, Marlette	81.7
Andrew Clifford Edgerton, Cass City	82.9
Charles Irvin Herrington, Bad Axe	84.6
Byron L. Howard, Detroit	86.
Donald MacLean Howell, Detroit	83.7
Charles Raymond Illick, Detroit	84.6
Joseph Arthur Kasper, Detroit	83.9
Norman Oscar LaMarche, Richmond	87.2
Warner Durelle Lane, Bad Axe	84.9
William Frederick Nill, Detroit	86.9
Frederick Schauffler Osterheld, Detroit	85.6
Hyman Lazarus Perlis, Detroit	82.3
Carl St. Claire Ratigan, Detroit	84.
Edward F. Runge, Detroit	85.1
John Albert Sheldon, Detroit	83.1
Manuel Soto, Detroit	84.4
Clayton T. Stubbs, Detroit	84.9
Roger Venning Walker, Detroit	84.6
Wesley Wellington Willson, Detroit	82.

The Franklin Moore bill creating a state health commission instead of a state board of health was signed by Governor Albert E. Sleeper, who appointed Dr Richard M. Olin, Secretary of the board, as state commissioner of health. Governor Sleeper also announced the appointment of four of the five members of the newly authorized state council of health. He has named Doctor Guy

L. Kiefer, Detroit, and Doctor J. W. Turner, Houghton for the six year term, and Doctor C. C. Slemons, Grand Rapids, and Doctor Frank M. Gowdy, St. Joseph, for the four year term.

The Clinical Club of Kalamazoo gave a dinner at the Hotel Rickman complimentary to Captain Ward Collins and Captain R. U. Adams, who recently returned from medical service in France with the American Army. After the dinner both men gave an account of their experiences in war work. The members of the dinner party, besides the honor guests were Dr. Sherman Gregg, Dr. William Huyser, Dr. D. J. Scholten, Dr. Frederick Shillito, Dr. Leslie DeWitt, Dr. J. T. Upjohn, Dr. Leonard Steward, Dr. Ralph Cook, Dr. William Perkins, Dr. Arthur West, Dr. Benjamin Shepard, Dr. C. B. Fulkerson and Dr. J. W. Bosman.

Doctor William A. Hyland, discharged as a First Lieutenant, medical corps, at Camp Custer, returned to Grand Rapids to learn that he had been promoted to Captaincy. Captain Hyland was attached to Surgical Team No. 107 and saw service with various mobile hospital and surgical stations on the various fronts in France and Belgium.

The physicians of the Wayne County Medical Society returning from war service may borrow from that organization money up to \$300.00 to re-establish themselves in practice. The funds will be loaned on notes, with interest at four per cent. per annum, the notes to run one year and be renewable when circumstances warrant.

Miss Anna Ruth Winter of the senior class of Hope College has been awarded a scholarship by the Woman's Medical College of Pennsylvania, the only school of its kind in the country. Miss Winter is the first girl student to receive a scholarship while at Hope College.

Dr. Rock Sleyster has been appointed successor to Dr. Richard Dewey, physician in charge of the Milwaukee Sanitarium, Wauwatosa, Wisconsin. Dr. Dewey will act as Medical Director of the Sanitarium.

The Milwaukee Sanitarium also makes the further announcement that Dr. W. T. Kradwell, Captain M. R. C., and assistant superintendent of the Sanitarium will soon be home from army service.

Doctor L. A. King of Baroda will locate at St. Joseph. Doctor King just recently returned from France after serving for ten months with the Johns Hopkins hospital unit.

The announcement of the marriage of Dr. R. C. Allen of St. Joseph and a member of the Berrien County Medical Society, to Mrs. Helen Baker of Detroit has been made.

Dr. B. A. Shepard of Kalamazoo has opened a private sanatorium for the treatment of tuberculosis. The sanatorium is known as the Pine Crest Sanatorium.

Doctor and Mrs. B. D. Harison of Detroit, expect to open their summer cottage on Steer Island, St. Mary's River sometime during the latter part of June.

Captain R. C. Main, Marquette's first full-time health officer, has returned to his home from Ellis Island where he has been stationed for the past year.

Captain J. O. Parker of Owosso, recently discharged from Service has just received word that he has been promoted to rank of Major in the M. R. C.

Captain Thomas B. Marsden, M.C., 63 Own Avenue, Detroit, Michigan, has just returned from 21 months service in France. He has been assigned to United States General Hospital No. 36 for duty.

Captains Ward E. Collins and R. U. Adams have been spending a short time in Kalamazoo, and expect soon to be discharged and resume their practices in Kalamazoo.

On invitation of the Academy of Medicine the Northern Tri-State Medical Society will hold its next meeting in Kalamazoo.

Major R. E. Balch has been discharged and has returned to Kalamazoo and resumed the practice of surgery.

Dr. J. W. Bosman of Kalamazoo, who has been ill has sufficiently recovered to resume his practice.

Doctor F. S. Osterheld of Detroit has taken over the practice of Doctor James McGillicuddy of Ovid.

Doctor Ray E. Dean of Three Rivers is taking a post graduate course at the Harvard Medical University at Cambridge, Mass.

Captain L. J. Stafford of Adrian has returned from France where he was stationed with the Detroit College of Medicine and Surgery unit.

Dr. George Duffield of Detroit announces the

removal of his office to 80 Griswold street, Suite 418.

Dr. Howard P. Doub is now associated with Dr. Rollin H. Stevens in the David Whitney building, Detroit, Mich.

Doctors F. B. Tibbals and F. W. Robbins of Detroit, are going on a fishing trip the fore part of June. We wish them success.

Major F. C. Kidner of Detroit is now stationed at Base Hospital No. 36 (Ford Hospital). This hospital has about eight hundred beds.

McBrides, a good farming country in Montcalm County is in need of a physician.

Doctor Charles W. Ryan has been elected mayor of Battle Creek.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

GRATIOT-ISABELLA-CLARE.

Dr. N. F. McClinton of Saginaw gave an interesting talk on the diagnosis and treatment of gonorrhea and syphilis at the meeting of the Gratiot-Isabella-Clare County Medical Society held April 24.

It was decided not to have a county society meeting in May on account of the Annual State Society Meeting to be held in Detroit on May 21st and 22nd.

HOUGHTON COUNTY.

The newly elect officers of the Houghton County Medical Society are as follows:

President—Dr. Simon Levin, Lake Linden.
Vice-President—Dr. R. J. Maas, Houghton.
Secretary-Editor—Dr. W. A. Manthei, Hubbell.

KALAMAZOO ACADEMY OF MEDICINE.

Special meeting of the Kalamazoo Academy of Medicine was held April 1st.

Because of the State meeting it was decided to not hold the second meeting in May.

The following program was carried out:

1. Circulatory Diseases of the Brain with Report on Three Hundred and Fifty Cases.
Dr. S. U. Gregg, Kalamazoo State Hos.
2. Fractures and the Application of Army Splints.
Capt. Chas. W. Mercer and Lt. Carl Crutchfield, Base Hospital, Camp Custer, Mich.

The regular meeting of the Kalamazoo Academy of Medicine occurred April 22nd.

The following program was carried out.

1. "Resume of the More Common Diseases of the Rectum and Colon with Special Ref-

erence to the Use of the Sigmoidoscope as an Aid in Diagnosis.

Dr. A. S. Youngs, Kalamazoo.

2. Remarks on Fractures, Joint Infections and Primary and Secondary Closure of Wounds.

Dr. Angus McLean, Detroit.

B. A. Shepard, Secretary.

LAPEER COUNTY.

The following were elected officers of the Lapeer County Medical Society:

President—Dr. I. E. Parker, Dryden.
Vice-President—Dr. F. A. Tinker, Lapeer.
Secretary-Treas.—Dr. C. M. Braidwood, Dryden.
Delegate—Dr. I. E. Parker, Dryden.
Alternate—Dr. F. A. Tinker, Lapeer.

LENAWEE COUNTY.

The Lenawee County Medical Society held its regular monthly meeting May 13, 1919, at the New Adrian Hotel, Adrian, Michigan.

Pres. R. H. Nelson, of Hudson, called the meeting to order following a dinner and social session.

The minutes of the previous meeting were read and approved.

In the absence of those who were to appear on the program several members reported interesting cases which were freely discussed.

Addresses were made by Dr. C. T. Southworth, of Monroe, Councillor of the 14th District, who complimented us on our showing and gave us words of encouragement, that we might boost our membership, and Dr. H. H. Hammel, of Tecumseh, who gave an account of some of his many interesting experiences in the service. Major Hammel was one of the first medical officers

to be sent to the relief of the British Medical Corps in 1917 at which time the British ranks were well nigh depleted. He was detached from the American army and attached to the British army so that he had opportunity of studying English methods. The use of picric acid in treatment of wounds was new to the members of the Society, none having read or heard of its employment as applied by the British. Major Hammel declared that it had completely taken the place of iodine in the British army, both by the surgeons and in the equipment of first-aid packets. A 10 per cent. solution in alcohol is applied to the skin in preparation of the field of operation and also to open wounds in the field.

Drs. H. H. Hammel and J. W. Beardsley, of Tecumseh, were new members taken into the Society.

The dues of Drs. A. W. Chase and G. M. Lochner, members still in the Service, were upon motion, paid out of the treasury, this bringing the total membership up to 27.

There being no further business, the Society adjourned.

E. T. Morden, Secretary.

MARQUETTE COUNTY.

At the annual meeting of the Marquette County Medical Society held in January the following officers were elected:

President—D. R. MacIntyre, Gwinn.

Vice-President—C. N. Bottum, Marquette.

Secretary-Treas.—H. J. Hornbogen, Marquette.

Delegate to the State Meeting—A. W. Hornbogen, Marquette.

Alternate Delegate—V. H. Vandeventer, Ishpeming.

OAKLAND COUNTY.

The Annual Meeting of the Oakland County Medical Society was held April 18th in Pontiac. The newly elected officers are:

President—Dr. N. T. Shaw, Birmingham.

Vice-President—Dr. S. E. Galbraith, Pontiac.

Secretary-Treas.—Dr. D. G. Castell, Pontiac.

Delegate—Dr. P. D. Hilty, Birmingham.

Alternate—Dr. J. J. Murphy, Pontiac.

Board of Directors—R. Y. Ferguson, Pontiac; E. Orton, Pontiac, C. J. Southerland, Clarkston.

Col. Angus McLean of Detroit gave a fine talk on "War Surgery."

Diphtheria Toxin-Antitoxin Mixture—Lederle.—A mixture consisting of five L+ doses of toxin and 6.25 units of antitoxin. Marketed in vials containing one dose. Three doses are packed in a carton. Schieffelin and Co., New York.

Book Reviews

THE NEW GRAND ARMY OF THE REPUBLIC AND ITS ORGANIZATION. By Loren C. Grieves, Lieutenant Colonel, U. S. Army.

This book contains the first broad, general outline of a most gigantic organization which is now being created for the banding together of the vast number of individuals who saw service both at home and abroad during the great war. Colonel Grieves is a West Pointer, class of 1904, and has held important army positions since his graduation. He saw active service in France with the 2nd and 37th Divisions in the operations branch of the General Staff.

This interesting book outlines the probable policy of the new Grand Army and points out the vital importance of this nation-wide organization to all who were in the service and to all public-spirited Americans.

George H. Doran Company, Publishers, New York.

ESSENTIALS OF SURGERY. A Textbook of Surgery for Student and Graduate Nurses and for Those Interested in the Care of the Sick. By Archibald Leete McDonald, M.D., the Johns Hopkins University. Formerly in charge of Department of Anatomy, University of North Dakota, etc. 265 pp., 46 illustrations. J. B. Lippincott Company, Philadelphia and London. 1919.

The author has prepared in a simple, concise and clear manner the principles of surgery for nurses and includes etiology, pathology, surgical anatomy, course of disease and indications for treatment. The graphic illustrations are clearly pictured and easily understood. Each chapter is followed by useful suggestions for demonstrations of the subjects discussed.

Swan's Mixed Furunculosis Bacterin (No. 39).—Marketed in 6-Cc. vials, each cubic centimeter containing 500 million killed *Staphylococcus pyogenes-aureus* and 500 million killed *Staphylococcus pyogenes-albus*. For a discussion of *Staphylococcus Vaccines*, see *New and Nonofficial Remedies*, 1919, p. 289.

Swan's Typhoid-Paratyphoid Bacterin (No. 42) (Prophylactic).—Marketed in packages of three 1-Cc. vials, one vial containing 500 million killed typhoid bacilli and 250 million each of paratyphoid bacilli A and B, while the other two vials each contain 1 billion killed typhoid bacilli and 500 million each of paratyphoid bacilli A and B. For a discussion on Typhoid Vaccine, see *New and Nonofficial Remedies*, 1919, p. 292. (*Jour. A.M.A.*, March 22, 1919, p. 863).

Miscellany

Mr. W. H. Long, acting Secretary for the Pennsylvania Association for the Blind, reports that it is 100 per cent. easier for the blind to get positions than it was a year ago. Opportunities are opening up for the blind every day, and the public is having its eyes opened as to what they can do. In Canada massage, Braille, shorthand, and poultry raising are popular courses with the blind, and they have become very proficient in them in a great many cases.

The 32nd Annual Convention of the American Association of Orificial Surgeons will be held September 15-16-17 at the Congress Hotel, Chicago. The forenoons will be given to operative demonstrations at the hospital.

The program will be replete with practical addresses, essays and papers by prominent Orificialists. The clinics will be interesting as usual. September 15-16-17 Congress Hotel, Chicago.

The Fourth Annual Meeting of the American Association of Industrial Physicians and Surgeons will be held at Atlantic City, N. J., June 9th, 1919, the Monday of the week of the A.M.A. meetings.

Headquarters will be at The Breakers on the Boardwalk. There will be a morning and an afternoon session and a banquet in the evening. It is urged that members engage accommodations at The Breakers.

The National Society for the Study and Correction of Speech Disorder will have its summer meeting in Milwaukee, on July 4, as one of the affiliated Societies of the National Educational Association. Members of the Society and invited guests of prominence in the field of speech correction, will address the Association. Anyone interested to receive an advanced program may do so by addressing the Secretary, Miss Marguerite Franklin, 110 Bay State Rd., Boston, Mass.

PROPAGANDA FOR REFORM.

Malt Preparations in Infant Feeding.—Malt preparations have enjoyed popularity for some time in the feeding of infants. A familiar mixture is the so-called malt soup, the use of which was modified by Kellier to include potassium carbonate. The assimilability of maltose has been highly lauded, but the advantage over other carbohydrates has not been definitely proved. Maltose has been vaguely stated to be indicated in the constipation of infants and the retention of calcium facilitated by the use of Keller's formula. However, in experiments on animals it was found that administration of a base like sodium carbonate produced any effect on the balance of calcium. It has also been reported that in a normal infant the addition of alkali to milk produced an unfavorable effect on calcium retention. Without addition of alkali, malt extract was found to act beneficially on calcium storage, but this is probably not due to the maltose. If malt soup has a favorable effect on calcium metabolism, it is not due to the alkali originally present or added to it.

There is no reason at present to attribute the seemingly substantiated benefit from malt preparations on calcium storage to the maltose (*Jour. A.M.A.*, March 1, 1919, p. 656).

Pharmaceutical Manufacturers and "Private Formula" Products.—Sharp and Dohme explain that it is their inflexible rule that all "private formula" orders intended for public distribution are refused until the copy for the "literature" has been studied by their experts. They explain that an order for three preparations which were later the subject of prosecution for misbranding under the federal Food and Drugs Act were filled and shipped in the belief that the copy had been passed on by their Spanish expert, when in reality this had not been done. The house of Sharp and Dohme feels that it has been done an injustice in the publication of the "misbranded nostrum" notices which gave no hint that the preparations were private formula products, and were not sold under the name of Sharp and Dohme. The firm believes that an injustice was done in that the references to these misbranded nostrums will lead readers to believe that they were sold under the label of Sharp and Dohme. There is unfortunately a commercial distinction between products which are made by a firm and products which are sold by it. Whether or not there is any moral difference between profiting by the manufacture of a "patent medicine," that is to be retailed by some one else, and selling the same medicine under one's own name, is a question. (*Jour. A.M.A.*, March 1, 1919, p. 669).

Misbranded Nostrums.—The following nostrums were declared misbranded under the Federal Food and Drugs Act because of the false, fraudulent or misleading claims made for them: Alkavis; Sulfero-Sol; Gonorrhea and Gleet 3 Day Cure; Old Indian Fever Tonic; Pain-I-Cure; Walker's Dead Shot Colic Cure (*Jour. A.M.A.*, March 1, 1919, p. 670).

Saccharin—After the War.—Having satisfied a need during the sugar shortage, the manufacturers of saccharin appear not to be content to turn their talents and plants to better uses, but suggest that the great commercial sacrifices made in setting their works into operation to produce saccharin should be rewarded by permission to continue the traffic under post-war conditions. The referee board to which the saccharin question was referred in this country has by no means given a clean bill of health to the chemical, and the people need to be protected from the danger, or at least the deception, of a substitute for sugar which is in no sense a true food. (*Jour. A.M.A.*, March 8, 1919, p. 729).

Organo Tablets and Orchis Extract.—The Organo Product Co., Chicago, sells Organo Tablets as a cure for "lost vitality." The Packers Product Co. sold Orchis Extract until it was put out of business by the government in 1918 by the issuance of a fraud order. Even a superficial comparison of the circular letters and booklets used in exploiting Organo Tablets shows a close connection between this humbug and the government declared fraud—

Orchis Extract. Has Orchis Extract of the Packers Product Co. become Organo Tablets of the Organo Product Co. (*Jour. A.M.A.*, March 8, 1919, p. 746)?

Depilagiene.—The A.M.A. Chemical Laboratory reports that "Franco-American Hygienic Depilagiene," a hair remover, essentially is a mixture of barium sulphate, barium sulphid, sulphur and starch. The amount of barium sulphid was found to be 22.6 per cent. this is equivalent to about 45 per cent. of commercial barium sulphid. Depilagiene has no claim to originality as practically all chemical hair removers are composed of some form of sulphid. Naturally, the preparation is likely to cause more or less irritation of the skin. (*Jour. A.M.A.*, March 8, 1919, p. 746).

Validity of Provisions Concerning "Patent" Medicines.—In the proceedings instituted by E. Fougere and Co., Inc. against the City of New York et al, the Court of Appeals of New York holds that the provision of the sanitary code is not unconstitutional in that it prescribed the formula disclosure of medicines. The purposes and effects of the code were well within the police power and had the object of protecting the public. "No man has a constitutional right to keep secret the composition of substances which he sells to the public as articles of food" (*State v. Aslesen*, 50 Minn. 5, 52 N. W. 220). If that is true of food, it is even more plainly true of drugs. But there was one objection to the ordinance, though one that amendment might correct; that the ordinance did not except existing stores of merchandise in the hands of dealers, in that the board of health exceeded the powers delegated to it. (*Jour. A.M.A.*, March 8, 1919, p. 753.)

The Victory Over Rabies.—Amid the victories on the European battlefield, we may pause to contemplate man's conquest of rabies. During the year 1916, 1,008 persons in the district of Lyons received the antirabic treatment. A single death in this list places the mortality at 0.099 per cent. Since 1900, more than 9,000 persons have received antirabic inoculations, with a total of nine deaths, or 0.09 per cent. (*Jour. A.M.A.*, March 15, 1919, p. 800.)

Nature's Remedy Tablets.—A. H. Clark, of the A.M.A. Chemical Laboratory, reports that "Nature's Remedy" is claimed to contain ten ingredients; that the manufacturers declare seven of these—burdock, juniper, sarsaparilla, mandrake, rhubarb, dandelion and prickly ash; and that the manufacturers state they are "more proud" of the other three, but refrain from naming them for fear of imitators. Clark's analysis, supplemented by a microscopic examination by E. N. Gathercoal at the University of Illinois School of Pharmacy, indicated that the unnamed drugs are aloes (or a preparation of aloes), cascara bark and belladonna root. The microscopist stated that rhubarb, as well as all the other named drugs, if present at all are there in such small quantities that no evidence of their presence was seen. As a result of the examination and a consideration of their powerful cathartic action, it is believed that Nature's Remedy is,

essentially, aloes or aloin, cascara, and belladonna with, probably, resin of podophyllin (instead of mandrake)—a common cathartic mixture. (*Jour. A.M.A.*, March 15, 1919, p. 815).

Misbranded Nostrums.—A "Notice of Judgment" has been issued declaring the following nostrums misbranded: Chase's "Blood and Nerve Tablets" "Liver Tablets," and "Kidney Tablets"; XXX Tonic Pills; Egiuterro; Uicure; Sweet Rest for Children; Beaver Drops Comp.; Blood Kleen; Heart and Nerve Regulator; Kidneyleine; Eye Powder; Tanrue Herbs and Pills, and 5 Herbs. (*Jour. A.M.A.*, March 22, 1919, p. 883).

Havens' Wonderful Discovery.—The Council on Pharmacy and Chemistry reports that E. C. Havens, Sioux Falls, S. D., requested consideration of a remedy which he claims to have discovered for the cure of influenza. According to the label on a specimen, "This remedy is good for Coughs, Colds, Lung Diseases, LaGrippe, Influenza, Rheumatism; good for Pains, Cramps, Backache, Lumbago, Neuralgia; for severe pains soak your feet in hot water for 3 nights, add 3 tablespoons of baking soda in water and apply Anti-Flue Medicine to the affected parts." The "discovery" was stated to contain oil of wintergreen, oil of sassafras, oil of black pepper, spirit of camphor, spirit of turpentine, spirit of chloroform, tincture of arnica and alcohol, and was called Havens' Rheumatic Remedy before its supposed effect on "flue" was "discovered." The Council finds that Havens' Wonderful Discovery is an unscientific, irrational mixture, marketed under therapeutic claims which are unwarranted and without foundation. (*Jour. A.M.A.*, March 22, 1919, p. 883).

Dichloramine-T and Petrolatum Dressing for Burns.—Torald Sollmann reports that solutions of dichloramine-T in chlorcosane do not protect the large open surfaces of burns against mechanical irritation and access of air. On the contrary, the solution is absorbed by the dressing, which is then glued by the wound secretions and causes pain and injury when the dressing is changed. As a result of a study of the decomposition of dichloramine-T by different solvents, Sollmann proposes the use of an ointment of three parts of surgical paraffin and seven parts of liquid petrolatum as a protective dressing on wounds (burns) treated with dichloramine-T—chlorcosane solution. It may even be used as a basis for a dichloramine-T ointment. (*Jour. A.M.A.*, April 5, 1919, p. 992).

Stevens' Consumption Cure.—C. H. Stevens, a discredited London quack, has been attempting to exploit Canadian veterans at the Mountain Sanatorium for the treatment of pulmonary tuberculosis at Hamilton, Ont. The nostrum was claimed to contain "Umckaloabo root" and "Chijitse," but the analysis made for the British Medical Association showed it to contain no active drugs except alcohol and glycerin. The following is a brief history of this "cure:" In 1904 Stevens was selling "Sacco" in Capetown, South Africa, but got into the courts

and found it expedient to leave Capetown. In 1906, Stevens was in Johannesburg trading as the "South African Institute of Medicine" and selling his stuff as "Lungsava;" was twice convicted of violating the law and left for England. In 1907, Stevens was in London selling his "cure," and in 1910 was declared by the courts to be guilty of intentional fraud and his "cure" pronounced a quack remedy. In 1915, Stevens' "cure" appeared in the United States under the name of "U. C. Extract" exploited by the Umckaloabo Chemical Company of New York City. To-day, Stevens is attempting to exploit tuberculous Canadian soldiers who have acquired the disease in the service of their country. (*Jour. A.M.A.*, April 5, 1919, p. 1018).

Surgical Solution of Chlorinated Soda (Dakin's Solution).—According to New and Nonofficial Remedies, 1919, surgical solution of chlorinated soda may be prepared: 1. By the electrolysis of a sodium chlorid solution. 2. By the action of chlorin on sodium carbonate. 3. By the interaction of chlorinated lime and sodium carbonate solutions with subsequent treatment with either boric acid or sodium bicarbonate to reduce the alkalinity. (*Jour. A.M.A.*, April 5, 1919, p. 1021).

Procaïn Anesthesia.—There is no evidence of latent injury to the dental nerves from repeated injections of procaïn to control supersensitiveness of the teeth. If an isotonic solution is used and this solution made sterile by boiling, it is not probable that it will be injurious. (*Jour. A.M.A.*, April 8, 1919, p. 1022).

Iodex.—According to Pharmacal Advance, a house organ extolling the products exploited by Menley and James, Iodex has all the virtues of free iodine without its drawbacks. The claim that a given proprietary represents all the desirable therapeutic properties of a drug but not its drawbacks has been so often proved unwarranted that the claims made for Iodex should receive scant consideration. The report of the A.M.A. Council on Pharmacy and Chemistry on Iodex included a report from the A.M.A. Chemical Laboratory which showed that Iodex, despite the advertising claims, contains no free iodine;—to be exact, when a test for free iodine was made on five specimens, four yielded only minute traces of iodine, while the fifth yielded none. (*Jour. Mo. State Med. Assn.*, April, 1919, p. 127).

Paw Paw Tonic.—An advertisement declares that "Paw Paw Tonic" contains no alcohol, but admits that it contains port wine. A newspaper item details the conviction of a Charlotte, N. C., druggist for selling this tonic to young men who become drunk from drinking it. The counsel for the druggist maintained that if Paw Paw Tonic was taken according to directions, the medicine would not produce intoxication. The jury decided that a "patent medicine" which when taken in liberal quantities will produce intoxication, is an intoxicating liquor. (*Jour. A.M.A.*, April 12, 1919, p. 1079).

Proflavin Oleate.—This is stated to be the oleic

acid salt of the base contained in proflavin (the soluble sulphate of 3,6-diamino acridine. Proflavin oleate is not obtainable in the United States. Proflavin has been proposed in England for use as a wound antiseptic, but its usefulness has been seriously questioned. (*Jour. A.M.A.*, April 12, 1919, p. 1099).

Buttermilk Therapy.—For reliable information with regard to new therapeutic measures and reliable brands of drugs proposed for them, New and Nonofficial Remedies should be consulted. This book contains a chapter which discusses the probable value of the Metchnikoff sour milk therapy. The book also describes those brands of preparations which the Council on Pharmacy and Chemistry found to be reliable and exploited decently. (*Jour. A.M.A.*, April 12, 1919, p. 1099.)

The Advertising of Sal Hepatica.—There are two ways of advertising a "patent medicine"—by direct advertisement to the public and by means of propaganda which will lead the medical profession to acquaint the public with it. Sal Hepatica is advertised by the indirect method. (*Jour. A.M.A.*, April 12, 1919, p. 1079).

Collosol Cocaine Not Admitted To N. N. R.—Collosol Cocaine (Anglo-French Drug Co. Ltd., New York) is claimed to be a preparation containing 1 per cent. of cocaine in colloidal form and is alleged to possess a remarkably low toxicity. However, the A.M.A. Chemical Laboratory found that a specimen contained not more than 0.4 per cent. of alkaloid; hence it does not have the composition claimed and is in effect misbranded. Further, in England it was conceded that the preparation was not an "absolute colloid" and that the declaration with regard to the percentage of cocaine was incorrect (Barger, Dale and Durham reported that a specimen was found to contain but 0.25 per cent. of cocaine). Without considering other objections, the Council on Pharmacy and Chemistry declared Collosol Cocaine inadmissible to New and Nonofficial Remedies because its composition was not correctly declared. (*Jour. A.M.A.*, April 12, 1919, p. 1094).

Cuprase Not Admitted to N. N. R.—Cuprase, sold by the Anglo-French Drug Co. Ltd., New York, is stated to be a colloidal copper hydroxid containing 0.00121 gm. copper per 6 c. c. ampule. A box of eight ampules is sold by the agents for eight dollars and fifty cents, less 10 per cent. discount. The Council on Pharmacy and Chemistry reports that the therapeutic claims made in the advertising are those commonly made for cancer "cures" and are about equally convincing. It declares that some of the claims can not be too severely condemned in a preparation which at best has only an experimental status. The evidence for the value of Cuprase published by the manufacturers or agents presents only vague generalities and no definite data. On the other hand, the evidence gathered by Weil some years ago permits an estimate of the value of Cuprase, and it is en-

tirely unfavorable. In view of the extravagant and cruelly misleading claims and indefinite statement of composition, the Council voted that Cuprase is ineligible for New and Nonofficial Remedies. (*Jour. A.M.A.*, April 12, 1919, p. 1095).

Goldenrod and Hay-Fever.—In spring hay fever is caused chiefly by the pollens of grasses. The fall hay fever in the Northern, Eastern and Southern states is for the most part attributed to the pollens of the ragweeds. In the Pacific and Rocky Mountain states they are replaced by the wormwoods. Scheppegegrell has concluded that goldenrod does not cause hay fever. (*Jour. A.M.A.*, April 19, 1919, p. 1162).

Germany and The American Chemical Industry.—The Alien Property Custodian has issued a report which, in part, is devoted to a discussion of the influence which Germany has had on the chemical industry in the United States. It outlines how the German government obtained a practical monopoly in the United States in dyes, fine chemicals and synthetic drugs. The report explains how by-products of the dye works were converted into explosives—trinitrotoluene, for instance—and the advantage which the production of these explosives gave to Germany as a military power. The report explains that in medicinal chemicals very little real manufacture existed in the United States. The report discusses the ramifications of the "Big Six"—the German concerns which controlled the dye industry—in American industrial life and describes how their American branches were shown to be enemy owned and therefore taken over by the custodian. The "Big Six" were: Badische Anilin and Soda Fabrik, Farbenfabriken vorm. Friedr. Bayer and Co., Actien-Gesellschaft fur Anilin-Fabrikation, Farbwerke vorm. Meister Lucius and Burning, Leopold Cassella, G. m. b. H., and Kalle and Co. Aktien-Gesellschaft. The American firms were: Badische Co. of New York, Bauer Chemical Company, Bayer and Co. (Inc.), Berlin Aniline Works, Casella Co., Farbwerke Hoechst Co., Heyden Chemical Works, Kalle and Company, Merck and Co., Roessler and Hasslacher Chemical Company and Synthetic Patents Co. (Inc.). The report closes with a description of a corporation to be known as the Chemical Foundation, Inc., which is to acquire by purchase the German patents which in the past have formed a colossal obstacle to the American dyestuff industry. The Alien Property Custodian has sold to this company for the sum of \$250,000 approximately 4,500 patents. (*Jour. A.M.A.*, April 19, 1919, p. 1176).

Anthelmintics.—The earthworm reacts with symptoms of toxicity to all clinical anthelmintics just as do the parasitic intestinal worms. This fact has enabled Torald Sollmann to re-investigate the claims long made for certain drugs. Spigelia was found to have rather feeble toxicity, but fresh pumpkin seed and squash seed were quite highly efficient. (*Jour. A.M.A.*, April 26, 1919, p. 1228).

Annual Meeting of the Council on Pharmacy and Chemistry.—Among the subjects considered at the recent meeting were: The Council decided to pub-

lish at an early date a report on the unscientific and commercial propaganda for nonspecific protein therapy. The Council appointed a committee to study the problems of serum and vaccine therapy with a view of publishing the evidence obtainable regarding both the value of, and also the dangers incident to, the use of serums and vaccines. A special committee was appointed to report on the present status of pollen extracts in the prophylaxis and treatment of hay fever. The Council adopted a resolution urging legislation which shall require the Public Health Service to extend its control of serums, vaccines, toxins and antitoxins to cover other patent remedies that are used hypodermically or intravenously. The Council passed a resolution that the control of arsphenamine by the Public Health Service shall be continued and the price controlled by the government. The Council decided to describe in a separate section of New and Nonofficial Remedies proprietary preparations of therapeutic value which are so exploited as to be inadmissible to New and Nonofficial Remedies. A committee was appointed to establish fuller co-operation between teachers of therapeutics and pharmacology in medical schools and the Council. A committee was appointed to determine the present status of radium water therapy. (*Jour. A.M.A.*, April 26, 1919, p. 1243).

Veracolate Tablets.—The Council on Pharmacy and Chemistry examined Veracolate (Marcy Co.) in 1915 and found it to be semisecret in composition, unscientific in combination and exploited under unwarranted claims. (*Jour. A.M.A.*, April 26, 1919, p. 1245).

NEW AND NON-OFFICIAL REMEDIES.

The following articles have been accepted by the Council on Pharmacy and Chemistry during March and April:

Swan-Myers Company:

Swan's Mixed Acne Bacterin (No. 41).

Swan's Pertussis Bacterin (No. 38) (Prophylactic).

Swan's Mixed Furunculosis Bacterin (No. 39).

Swan's Typhoid-Paratyphoid Bacterin (No. 42). (Prophylactic).

Non-Proprietary Articles:

Mercurialized Serum.

Diphtheria Toxin-Antitoxin Mixture.

Abbott Laboratories:

Barbital-Abbott Tablets, 5 grains.

Lederle Antitoxin Laboratories:

Anti-Anthrax Serum (Lederle).

Antidysenteric Serum (Polyvalent) (Lederle).

Tuberculin von Pirquet Test ("T. O.") (Lederle).

Tuberculin Subcutaneous Test ("T. O.") (Lederle).

Tuberculin "B. E." (Bacillus Emulsion) (Lederle).

Tuberculin "B. F." (Bouillon Filtrate) (Lederle).

Streptococcus Vaccine, Polyvalent (Lederle).

Paratyphoid Vaccine (Lederle).

Schick Test (Lederle).

Mercurialized Serum-Lederle.

Diphtheria Toxin-Antitoxin Mixture-Lederle.

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DEFORMITIES OF THE PLANTAR AND ANTERIOR ARCH.*

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Orthopedic examinations of men in the several branches of military service disclosed findings that were a revelation not only to military men but to our civil population. For years our profession has ignored a condition that produces inefficiency to a very considerable extent. A survey of any one of our large industrial plants would reveal a great loss of efficiency due to abnormal feet. Modern factory construction with cement floors compel many operatives to stand for long periods of time on this unyielding surface, exposed to changes in temperature, in improper attitudes with feet encased in deforming footwear. Is it any wonder that abnormalities are the rule rather than the exception? For the relief of these ills where do these patients go? The newspapers afford generous space to all kinds of remedies "Tiz" that magical powder will refresh your tired feet. "Foot-Ease" will make them smile. A bunion appliance will reduce a hallux valgus so the wearer of the stylish shoe is promised happiness, another appliance will restore the graceful arch so much coveted by our lady of fashion. Orthopedic right and left hosiery will straighten crooked toes. "Freezone" will remove the corn, roots and all, it is generally understood by the laity that corns have roots which must be removed to afford a permanent cure. The shoe with the arch built in will restore a depressed arch or prevent deformity to a normal one depending on guillibility of sufferer. At frequent intervals appliance manufacturers send so called experts to give demonstrations in shoe stores showing what miraculous cures may be expected to follow wearing of these particular appliances, and for everyone they have just the proper ap-

pliance. It is surprising that intelligent persons will accept this kind of advice and wear all kinds of ridiculous devices expecting to realize the promises of glib salesmen.

Only recently one of our semi-religious institutions offered its forum to these pleasant and learned specialists whose love for humanity is only equalled by their desire to exploit the public. Clever advertisements made it appear that these demonstrations were in the interest of public health and afforded them the opportunity to inform the public that for every foot ill they had a specific appliance which could be had at any local shoe store. Those who had no foot ills were advised to use their magic pedic soap and powder to maintain their freedom from foot troubles. Charlatans of this type frequently impress their hearers that they have the indorsement of our profession and from all the criticism to the contrary it can reasonably be inferred.

Why does this state of affairs exist? Is it because the medical profession is incapable of prescribing intelligently? Most decidedly no. The average physician is inattentive towards this class of patients unless the symptoms have induced a condition that assumes a serious aspect when an examination is made and the remedy suggested is not usually the most appropriate one. For trivial ills little sympathy is exhibited and the usual advice is to have the style of shoe corrected. Now the large shoe stores have orthopedic departments presided over by so-called foot experts to whom are referred patrons of the store where a diagnosis is made and the proper appliance is sold. There is a close co-operation between the departments, for regardless of the style of shoe selected, the appliance is adjusted in harmony with the shoe rather than the foot.

Is it not reasonable to assume that business houses with established reputations would not pretend to offer a service that was not only legitimate but efficient? Not long ago a surgeon of unquestioned ability referred a patient

*Read before the Wayne County Medical Society May 12, 1919.

to one of these departments presided over by an expert who is called doctor by store attendants but refrains advertising himself otherwise. I think it a mistake to send patients to instrument makers for the proper diagnosis of a foot lesion as I contend that none without a medical education is competent to perform this service.

The public, as a result of prolific advertising, is led to have great faith in arch-supports and is easily induced to buy them, giving them up only after painful experiences. Serious error is made in making a general diagnosis of rheumatism without any pretense of an examination and only changing the diagnosis when such treatment is plainly futile. Arthritic feet are of course met with but in only a small proportion of cases where the focus is readily appreciated. There is an assumption that the medical profession has delegated to the chiropodists the treatment of corns, bunions, callosities, ingrown nails, etc. This restriction is not to their liking so they have added the fitting of supports of all kinds and the treatment of any nervous, trophic, dermatological, infectious, or constitutional disease that might manifest itself in the feet. In this connection I might mention diabetic ulcers which are often treated by them until other symptoms develop when they go under the care of a physician. I believe the act defining the practice of chiropody should be amended so that the public would have better protection.

In a recent announcement of a Chicago school prospective, students are encouraged to enroll at once as future legislation may change the requirements. This school is financed and controlled by a large foot appliance manufacturer—naturally its students are extending the sale of its products. I do not believe it is generally known with what facility a practipedist is educated and fitted for the alluring profession of chiropody and a beautiful diploma bears silent testimony to his or her skill and knowledge. The public should be set right and I know of no better way than through education by the medical profession. I cannot deny myself this opportunity to bring out these facts which bear a general relation rather than a specific one to this paper.

I shall limit the scope of this paper to those lesions of the feet most commonly met with: deformities of the plantar arch and of the anterior arch.

If we are to recognize deformities of the feet which are pathological we must have some intelligent idea of what is physiological. We hear

so little physiology as pertains to the feet. We cannot use our feet in a physiological manner if they have changed their proper relation to propel the body. To define the function of the feet I would say they support and propel the body. This is done by the muscles acting as levers and the skeleton parts acting as fulcrums. The foot is a very complicated mechanism and requires for perfect function the harmonious relation of all its parts. Disturbed function is reflected in posture defects as the result of insecure support by symptoms in chest and spine. In proper walking is seen the leverage function well illustrated. With the foot in the proper attitude of walking the feet should be parallel so the line of weight passing down through the knees should extend to base of second toe or practically center of foot. The primary movements of the foot are adduction, abduction plantar flexion and dorsal or tibial flexion.

The range of motion at the ankle joint is 60 to 80 degrees, dorsal flexion 10 to 20 degrees less than a right angle and plantar flexion 50 to 60 degrees more than a right angle. Less than this range of motion indicates deformity. In these primary movements the foot is considered as moving while the leg is fixed, while in the attitude of rest the foot becomes the fixed body. Expressed in a simple manner the leg supporting the weight of the body has a tendency to tilt the foot over toward the inner side and slightly evert the sole. Under increasing weight the point of greatest pressure on the sole shifts from its centre and outer border toward the inner border. If the body is raised, as in walking, the inner arch is relieved from strain and the weight falls on the front and outer border. You will see by this that the foot as a passive support of the body occupies a changed relation when engaged in propelling the body. The important function of the dorsal flexors is to raise the foot as it is swung forward, plantar flexors to lift and propel the body. The difference in function is shown by the relative strength of the two groups—the plantar flexors being five times the stronger. The calf muscles (soleus and gastrocnemius) alone are three times as powerful as all the other muscles of the leg combined. The muscles that support the inner arch of the foot are tibial-anterior and posterior through their tendonous attachments which are inserted the former into the medial and under surface of the first cuneiform bone and base of first metatarsal, the latter into the head of the navicular bone and gives off fibrous

expansions to the sustentaculum tali of the cuneus, others go forward and lateralward to the three cuneiforms, the cuboid, and the bases of the second, third and fourth metatarsals. The peroni muscles evert the foot and bear a very important relation when they are shortened. The Tendo Achilles—the largest tendon in the body regulates extension and flexion of the foot. When this tendon is shortened, dorsal flexion is greatly limited and one of the most frequent factors of flat foot as flexion (dorsal) is at the expense of those muscles which raise the plantar arch. It must be considered when we speak of the action of these different muscles that the action of any depends on the normal relation of others. Any abnormality in bone or muscle restricts natural movements. I am not going into detail but if we understand the gross anatomy any radical departure is recognized as the disturbance in function is manifest.

I shall only mention the different degrees of flatfoot and deformity of the anterior arch. Pes Planus is a type that is painless and has its origin in relaxed ligaments in early life, usually rachitic, and regardless of the deformity, accommodative changes have gradually taken place so that these patients are fairly comfortable. It is far the best course to leave them alone as patients are usually advanced in years. The results obtained by breaking up old adhesions and bringing the feet back to approximately normal are at the expense of much suffering and the last state of these patients may be worse than the first. Much can be done by manipulation to restore flexibility which materially adds to their comfort provided a well fitting shoe is worn which does not attempt to over-correct the deformity. The weak foot is the most attractive problem as here the orthopedist can give most valuable service.

This condition is most frequently met with in children, usually at an age when the greatest care should be exercised in fitting the shoes. As the twig is bent the tree inclines is an adage that is particularly fitting as these cases respond to intelligent treatment. Deformities of the anterior arch are especially prevalent and give occasion to much suffering and discomfort. It is not generally realized that the anterior or transverse arch of the foot corresponds with the metacarpo-phalangeal articulation in the hand and on the integrity of this arch depends the elasticity and flexibility of the fore foot.

Etiology.—The first and predominating factor that overshadows all others in bringing

about deformity in the feet is the conventional shoe by restricting the normal mechanism of walking and weight bearing.

Second: Greater burden on the feet than they are structurally able to bear as in obese persons.

Third: Relaxed muscular and ligamentous states following long confinement in bed.

Fourth: Congenital shortened heel cords preventing normal dorsal flexion.

Fifth: Over indulgence in sports as tennis, skating and others which produces great stress while the foot is pronated.

Sixth: Occupational as in the case of waiters, cooks, motormen and machine operators where change of posture is not permitted.

We may assume that all static feet are in a condition of muscular and ligamentous imbalance. The articulating surfaces occupy changed relations that disarrange function. The mechanism functionates at a mechanical disadvantage causing pain and spasm. Hypertrophy of the posterior tibial at its insertion in an effort to withstand increased stress. Periosteal thickening is noticed where pressure is greatest. Callosities form under metatarsal heads causing much pain and distress. Disused muscles atrophy, especially the abductors and plantar flexors, the calf muscles are atrophied—look shrunken. Low muscular tone is evident.

THIS IS IN BRIEF THE PATHOLOGY.

In order to bring out the symptoms a careful history is taken. Especial enquiry as to occupation, previous infections what were the initial symptoms and if changes in style of shoe worn were made. At what time of day is distress most evident to illustrate many cases give no symptoms early in the day but gradually develop as the day passes, others complain when the feet are used on arising after exercise distress abates. Seasonal the first warm days in spring aggravate previous ills and the tendency to remain out doors increases. As winter approaches offices and homes become over heated and changes in temperature will attract attention to feet. The examination should be systematic; and should begin when the patient presents himself in the office or clinic. The expression will oftentimes indicate the amount of suffering as painful feet certainly make one miserable all over. Very often only one foot is affected while careful examination will show that conditions in both feet are almost identical but frequently symptoms manifest themselves at first in one foot. Very often the right foot

is slightly more developed by use and is made to endure the same size shoe as its mate when it should be slightly larger. Have the patient walk, is there limping, notice if the clothing is worn at ankles and are the latter prominent. Does he or she arise quickly or is there some hesitancy in assuming the erect position? Is the disproportion great between the size of feet and body? Examination of shoe will show what parts are subjected to most pressure. The feet are now uncovered and the degree of the primary movements appreciated, what departures from normal noticed by testing out the various movements and with what degree of pain is complained of when these movements are made. Surface indications such as callosities will indicate pressure and friction or both. These are most of the symptoms to look for during the examination. Such questions are asked as will bring out degree of pain remembering that pain is elicited in a tendon when the ends are separated and in a muscle contraction will produce it. Excessive sweating with or without marked odor indicates irritation as the foot in this state has increased blood supply and naturally glandular activity is stimulated. Small sluggish ulcers are likely to be diabetic and urine should invariably be examined. History will connect past injuries with progressive symptoms as frequently sprains at ankle are not sufficiently immobilized nor time given for ligaments to reattach. Definite pain on pressure over any of the bones may indicate periostitis, this is especially true in the os calcis comprising a condition known as painful heel. The various locations of the bursae should be known as bursitis is quite common. You will realize that all these symptoms must be estimated in making a diagnosis and by elimination appropriate treatment instituted. Never attempt a diagnosis without a thorough examination and history with the feet uncovered. The object in treatment is to restore the feet to their natural relation, rearrange the mechanism, and impress upon the patient the necessity of following your directions as without the intelligent cooperation of patient the fullest benefit will not be secured. The first and most important aid to treatment is directing the proper shoe to be worn. An improper shoe will defeat any corrective measures, far better to dismiss the patient as results must be disappointing to patient and physician alike. Bearing in mind deformities are progressive it is natural that restoration or approximation to normal may be tedious. It is a mistake to attempt the same

treatment to the foot of a chronic sufferer whose feet are in a state of spasm so that every movement is torture, as would be instituted to the weak foot in a child or young adult who has not lost flexibility. At times a change in occupation must be insisted upon. It is manifestly impossible to accomplish the desired result when great strain is continuing. The weak foot should have a shoe overcorrecting the foot and with precise directions for exercises. A strip of adhesive should be applied to bring the feet into adduction. This strip can remain on a week when it should be reapplied. It will be found necessary to omit the adhesive as continued application acts as a local irritant. At each visit for treatment and observation the feet should be forcibly adducted as the structures that elevate the arch must have their tension reduced so that they may contract. This law in physiology must be ever considered; that all muscular and ligamentous tissues contract when their tension is reduced. The chronic condition requires different treatment. Any treatment producing radical change in weight bearing and locomotion will be unsuccessful. All spasm must be relieved by massage, vibration and passive exercise. The shoe having this object in view must not attempt too much as a corrective measure. More rest must be insisted on and as the condition improves a different type of shoe can be worn comfortably. Very often deformity of the inner arch is associated with depressed anterior arch. Then treatment for the combined condition may be carried out. Callosities under the metatarsal heads have this significance that the weight is transmitted through two points of support instead of three and the constant effort to maintain the body in equilibrium causes much muscular fatigue. Arch supports have become widely used with the expectation that they will be curative. I believe great damage is done in an attempt to apply engineering principles to correct deformities in animate structures. I am certain their use when made of proper material is often indicated in the sense that they are intended as a splint to be discontinued when no longer of value. Any support that prevents the natural muscular movements under it brings about a condition of atrophy. I do not think the orthopedist is doing justice to the patient after applying arch supports as really that is only the beginning of treatment. Too many of our profession send patients to have arch supports fitted without a definite diagnosis which puts the instrument maker in the same position as the

counterprescribing druggist. Anything that favors adduction will have value. The object is to restore the proper relation and this is accomplished by an arch support which must be sufficiently elastic in texture to avoid any irritation when worn. I will admit that the metal supports or plates as they are called, will give at first a sense of relief but their continued use brings atrophy to the intrinsic muscles and absorption of fatty tissue under the arch so the bony structures come in direct contact with the metal and irritation is excited. Very often they are used without any regard to type of shoe worn which is like combining a sedative and stimulant in same prescription. I am quite convinced that the wearing of metal arch supports is not only unscientific but irrational. In correcting deformities of the inner arch instead of pushing up from below the pull should be exerted from above by increasing the tone of the muscles concerned and aiding this effort by intelligent treatment. In transverse arch deformities the object is to forcibly restore the movements at the metatarsal heads, elongate the extensor tendons by over extension of toes, and such padding just back of these joints so convexity on the ball of the foot may be replaced by a concavity. This requires much time and the pad is gradually raised in thickness until full relaxation is obtained then as indicated exercises are carried out the approximate correction is made. It is not always possible to carry out the best treatment suitable for the condition as most patients expect no interference with their usual habits or duties. I think in badly pronated feet overcorrection is best made and feet immobilized but few patients will submit to this procedure so the best under the circumstances must be done. Many patients after partial amelioration of symptoms will discharge themselves before much benefit is accomplished as they appreciate comparative relief and are unwilling to devote the time and effort for further treatment. I try to see these patients two or more times a week and as conditions improve lessen the visits. Certain exercises must be insisted upon and when these patients are constantly in touch with physician they are reminded at each visit and I think prevented from relaxing their interest. Nothing surpasses the comfort of a thorough massage with the movements of muscles stimulated to normal range of motion by vibration, a cooling lotion gives them decided comfort and at each treatment definite change in reconstruction is produced. At night dipping the feet from very hot

to very cold water is a powerful stimulant to circulation and increases muscle tone. Grasping a large agate with the toes is advised to increase the flexibility of the fore foot. When it is remembered that persons without hands become very dextrous with toes it is readily seen with what degree complicated movements may be acquired. So many sufferers with metatarsalgia imagine if they could only get rid of callosities under the metatarsal heads they would have normal feet not knowing that cause must be removed before effects disappear. To sum up treatment the essentials are, correctly fitting shoes, systematic exercises, corrective muscular movements under the immediate supervision of the physician, supports when indicated that will not destroy but redevelop muscles that have lost their tone and function by disuse without causing irritation.

CONCLUSIONS.

The attitude of the medical profession should change from one of passive to active interest in advocating reform in the manufacture and sale of shoes.

Freak styles in shoes should be subjected to a prohibitive tax to discourage their manufacture, preferably by federal enactment. The fitting of shoes should be supervised by a real orthopedist. Appliances for the feet should only be sold on the advice of the physician as any other corrective measure.

THE USE OF CORPUS LUTEUM IN PREGNANCY.

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In the *Journal of the American Medical Association* of Feb. 26, 1916, John Cook Hirst made a preliminary report of the use of corpus luteum extract to control the nausea of pregnancy. His theory for its use is as follows: "Every woman during the period of sexual activity is constantly absorbing corpus luteum. No sooner is the corpus luteum of one menstruation disposed of, than another appears to take its place. With the onset of pregnancy, this absorption ceases. The corpus luteum of pregnancy constantly increases in size until it reaches its acme about the third month. From this time on it is gradually absorbed. The nausea of pregnancy, beginning during the period of non-absorption, disappears about the time that the corpus luteum begins to decrease in size. Is it not reasonable to assume that this

is no coincidence but cause and effect; and that corpus luteum plays an important part in relation to nausea?"

Since then I have used the extract in thirty-eight women who have suffered more or less from toxemia of early pregnancy.

MATERIAL.

The material used is a solution equivalent to 2 gr. of dessicated corpora lutea in 1 cc. of physiologic salt solution saturated with chlore-tone for its local anesthetic effect. This comes prepared in ampoules in sterile solution ready for use. The product is taken from sows, 90 per cent. of which are said to be pregnant at the time of slaughter. The extract from sheep and cows is equally efficacious, but that of the pig is nearer to the human extract in richness of lutein cells. The dried extract in tablet or powder form is not to be used, because of the digestive action on it in the alimentary canal before absorption. Results are not obtained from the administration of the extract in this form, and some women seem to be more nauseated after its use by mouth.

DOSAGE AND ADMINISTRATION.

A small glass luer syringe is used for injection. The glass and needle are boiled for five minutes and then allowed to cool before drawing the solution into the syringe. The site of injection is prepared by cleansing with chloroform. The preferred area is the gluteal region, though the deltoid is usually satisfactory. The needle is driven sharply into the muscle and the contents slowly injected. Subcutaneous injections are not satisfactory because of the pain induced and the possibility of local anaphylactic action.

The number and frequency of injections necessary to produce results vary greatly. Mild cases suffering only from morning sickness may require three or four injections given every other day. Some respond to one injection, but it is advisable to give several more as the effect is usually transitory when only one is given. In severe cases it is necessary to give injections daily or twice daily. Each injection consists of 1 cc. of the solution.

This method has been used to control the vomiting of early pregnancy in thirty-eight cases. These were in my private practice and the Board of Health prenatal clinics. Each case was examined for possible source of reflex vomiting. Physical examination was made to discover and alleviate pelvic displacements and abnormalities. Elimination, especially

through skin and bowels, was provided for. The routine directions as to diet and hygiene were followed. Milder cases were cared for at office or clinic, more severe ones at home. A special effort was made not to permit suggestion to play any part in the treatment. In clinic cases injections were given without a word as to their purpose. As other routine measures such as drawing blood for Wassermann test are followed, the patients took injections as a part of the routine without knowing or suspecting what they were for.

The result has been gratifying in all cases except one suffering from Graves disease. There was a slight recurrence after a period following the injections in sixteen cases. These responded quite readily after renewed administration of from one to three injections. In mild cases there was usually an improvement after the first or second injection, and almost complete alleviation of nausea after the third or fourth injection. Several experienced repeated periods of nausea, but these were improved after further use of the extract.

There were three marked toxic cases which responded well after a course of injections given twice daily. All of these were confined to bed, unable to retain food, had low blood and pulse pressure, and were losing weight. Each was relieved of nausea and vomiting, and after sufficient nourishment was retained, each improved greatly in general health.

To illustrate the benefit derived from the use of corpus luteum in this severe toxic hyperemesis gravidarum, I will cite the following case.

Mrs. A. B.; age 24, No. 4038 Providence Hospital by ambulance September 2, 1918. On July 1, 1918, Dr. J. R. Glemet had dilated and left a silver stem pessary in the cervix. Early in August nausea and vomiting commenced and became progressively worse. The pessary was removed August 6. She had been in bed continuously since then. All of the customary remedies were of no avail in checking the vomiting. When I saw her September 17, she was so weak that she was barely able to raise her head. Injections of corpus luteum were started at once and given twice daily. There was no improvement immediately, after three days, slight improvement, and in ten days vomiting had stopped though slight nausea continued. She left the hospital September 28, able to eat and retain any food. She was about though still weak. The remainder of pregnancy was uneventful. She was delivered at home by

Dr. Glemet April 21, 1919, of a living seven pound male child.

After noting the specific effect of corpus luteum on toxie hyperemesis gravidarum, the nausea and vomiting of early pregnancy are proven to be symptoms of a toxie state due to deficient secretion of corpus luteum in the individual affected. This toxie state may produce other symptoms such as vertigo, dizziness, headache, neuritis and mental depression. These are all benefited by the administration of the extract.

In the so-called neurotic type of vomiting there is also an underlying basis of luteum deficiency. When the deficiency is supplied, all the various nervous phenomena disappear after the cessation of vomiting. The nervous phenomena neurasthenia and mental depression are frequently the result of luteum deficiency or the result of undernourishment from the inability to retain food because of the toxie state. I will cite a case of mental depression resulting indirectly from luteum deficiency.

Mrs. F. F., age 26, secondipara had her last period February 20, 1919. A month later she commenced to vomit. She vomited at frequent intervals through the night, was able to get only a little sleep during the day. Nausea was continuous. From an active, cheerful person, she became weak, inactive, lost considerable weight, did not care to get out or see people, lost interest in life, wept frequently and mentally was greatly depressed. I saw her April 25, and gave an injection of corpus luteum. This was repeated once daily. The depression improved rapidly. On April 29, she drove her car to my office. Vomiting much less each day; May 5, only slight occasional nausea. She is normal as before the onset of pregnancy and her mental depression entirely cleared.

Corpus luteum extract may be used as a diagnostic aid in early pregnancy. When nausea and vomiting appear early in pregnancy, the use of this extract may clear up the diagnosis before it is possible to diagnose pregnancy by physical signs. If nausea is stopped after injections, pregnancy is present. I will cite a case to illustrate this.

Mrs. W., age 23, secondipara had been confined June, 1918. Since then she had no period until she came to me January 28, to find out whether she was pregnant. The uterus was slightly enlarged. As I had not confined her it was not possible to diagnose early pregnancy from sub-involution of the uterus following the last pregnancy. She was given an injection of

corpus luteum and this was repeated the following day. As the vomiting stopped at once, I concluded that pregnancy existed, which subsequent development proved to be the case.

Hirst states in his last report that of 111 cases of hyperemesis treated by him with corpus luteum extract only four aborted. None of those I have treated have aborted. Leo Loeb has shown that the corpus luteum is essential to the formation of uterine deciduomata to receive the fertilized ovum. It probably has an important bearing upon the normal growth of fetus and decidua. If this is true a deficiency might be the causative factor in abortion or miscarriage. Assuming this to be the possible causative factor in habitual abortion, I am using the extract as a prophylactic against abortion. At present two such cases are under my care. I will cite one case.

Mrs. L. M., age 23, fourth pregnancy. In August, 1916, had three month abortion, in January, 1917, had four month abortion, in February, 1918, three month abortion. Her last period was the middle of November, 1918. She came to me a month later. Wassermann was negative. Corpus luteum has been given every two weeks one ampoule at an injection. She is now six months pregnant, in normal condition with probability of full term pregnancy.

There were no general anaphylactic reactions. There has been a slight urticaria about the site of injection after several injections. This was especially noticeable when the injection was given in the arm.

Hirst speaks of the inefficiency of this extract in women with goitre. While I have none with large sized goitre, I have had the same beneficial effect in those with the small goitre as in the nongoitrous.

The one case of partial failure was a case of exophthalmic goitre. Mrs. J. S., No. 1985, age 27, primipara entered Providence Hospital April 29. Her last period began February 15, 1919. She had been confined to bed for over a month when I first saw her. Nausea was constant, vomiting very frequent, especially at night.

She was very asthenic and had marked exophthalmic goitre with an average pulse rate of 120. Nausea and vomiting almost stopped in two weeks. Insomnia was controlled by veronal. At present the symptoms of Graves disease are as before except that she sleeps well. I consider the toxicity of early pregnancy under control, though she vomits very little once or twice

daily. Possibly the Graves disease has prevented complete action by the extract.

CONCLUSION.

1. During early pregnancy there is a great increase in corpus luteum and also in the internal secretion from it.

2. A deficiency in the normal increased secretion from the corpus luteum of pregnancy results in a toxemia of early pregnancy.

3. The principal symptoms of this toxemia are nausea and vomiting. Others less common are dizziness, headache, vertigo, neurasthenia, insomnia, mental depression. Later the symptoms of under nutrition and emaciation follow.

4. The administration of the extract from corpus luteum corrects these symptoms by supplying the deficient secretion of corpus luteum in the individual suffering from this toxic state.

5. The regular exhibition of this extract may control cases of habitual abortion due to deficient corpus luteum development in early pregnancy.

6. Diagnosis of early pregnancy may occasionally be aided by the specific effect of corpus luteum extract in stopping hyperemesis.

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SCOPOLAMINE MORPHINE ANESTHESIA AND ANALGESIA.*

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For ease of administration and variety of conditions for which it may be used, we have no anesthesia to compete with scopolamine morphine.

By giving attention to the ratio between the dose of the scopolamine and the dose of the morphine as well as to the size of the dose and the frequency of administration one may have either a surgical, an obstetrical or a dental anesthesia. In prescribing for this anesthesia three points should be well understood.

1. Scopolamine and morphine are antagonistic in their physiological action in every

respect, except that they both relieve pain and produce sleep.

2. Scopolamine has no effect upon the reflexes, whereas morphine dulls, or to some degree, abolishes the reflexes.

3. Scopolamine is quickly eliminated, i. e., in two to four hours. Morphine is eliminated slowly in twelve to twenty-four hours.

For producing surgical anesthesia, we may divide the amount to be given into a class dose and an individualizing dose. Class 1 includes patients between the ages of 15 and 55 years. The dose for this class is scopolamine 1-100 gr. with morphine $\frac{1}{4}$ gr. given hypodermatically $2\frac{1}{2}$ and $11\frac{1}{2}$ hours before the time set for operation.

Class II is made up of patients from 10-15 and from 55 to 70 years of age. These patients are given scopolamine 1/100 gr. with morphine $\frac{1}{8}$ gr. on the same hours as Class 1, $2\frac{1}{2}$ and $11\frac{1}{2}$ hours before operation.

Class III has patients from 5-10 and over 70 and the dose is scopolamine 1/200 gr. with morphine 1/16 gr. $2\frac{1}{2}$ and $11\frac{1}{2}$ hours before operation, the hours being the same for all classes. The class doses are given the patient in her room and orders are given that nothing be done to disturb the patient while she is taking the anesthetic.

The ideal condition is a darkened room with the patient entirely alone or behind screens. She must not be allowed out of bed after the first hypodermic injection and must be taken to the operating room on a cart one-half hour before the time set for operation, at which time she is seen by the surgeon or anesthetist who will prescribe the third or individualizing dose.

The individualizing dose which is given one-half hour before the operation depends upon the degree of anesthesia that has been produced by the first two doses and upon the respirations of the patient at the time the third dose is due. If the patient is well asleep and not easily aroused by being moved or spoken to, no third dose is given. If the patient is not well asleep, but easily roused and has normal respirations, a third dose will be given and it will be a repetition of the first two.

If the patient has respirations above or below normal and a third dose is needed, its size and composition will be determined by the frequency of the respirations. That is, if the respirations are below ten, the morphine is omitted entirely; if between ten and fourteen the dose of morphine is reduced one-half, but in either case the dose of scopolamine is unchanged, remain-

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ing the same as in the first two doses. On the other hand, the respirations may be increased beyond normal. If they are thirty or above and the patient is flushed and restless, give no scopolamine in the third dose, but repeat the same dose of morphine as was given in the first and second doses. If the respirations are around twenty-five, give one-half the dose of morphine previously prescribed in the first and second doses and omit all scopolamine. Where it is impossible to watch the patients while going under or where the anesthetist is inexperienced, a very satisfactory method is to give two doses of scopolamine 1/100 gr. with morphine $\frac{1}{6}$ gr. one and one-half and one-half hours before operation.

In the majority of scopolamine morphine anesthetics, it will be necessary to administer ether or chloroform during the operation, in order to obtain relaxation or to secure quiet while incising the skin or peritoneum. But so small amount of ether or chloroform is necessary to produce the desired result that nothing is ever given until the operator is ready with the knife in hand and can test the patient's reflexes by beginning to incise the skin. If the patient moves the ether or chloroform administration is begun but never continued to the point of complete abolishment of reflexes. An open mask without any surrounding reinforcements of gauze or towel is preferable, and the ether or chloroform is frequently stopped for a longer or shorter period, according to the sensitiveness of the area in which the operator is working. Mrs. Pfifer, special anesthetist to the Wheatland Wyoming Sanitarium uses chloroform until the patient is quiet, then continues with ether, drop method, on the same mask, but if the patient becomes restive, the chloroform is resorted to until she is quiet, when the ether is again resumed.

Gas in the hands of the experienced gives most happy results when used as an adjuvant to scopolamine morphine anesthesia.

For obstetric anesthesia one must bear in mind that parturition is a reflex action entirely, and therefore a minimum dose of morphine should be given on account of its dulling effect on the reflexes. The scopolamine having an opposite effect can be used in full doses frequently repeated.

The initial dose of the obstetric anesthetic is scopolamine 1/100 gr. with morphine $\frac{1}{8}$ gr. and may be given as soon as labor commences or at any time during the labor. This is the only dose of morphine that is given, but the

scopolamine 1/100 gr. is repeated every half hour for two succeeding doses. These three doses, i. e. the initial dose and the two doses following at half hour intervals will be effective in producing anesthesia in all obstetric patients. The problem now is to keep the patient in this state of anesthesia and it is accomplished by repeating the scopolamine 1/100 gr. every two hours until the patient is delivered, no matter how protracted the labor may be. If delivery is likely to take place at the time the last dose of scopolamine is due, this last dose is advanced one-half hour to insure perfect anesthesia when the head passes the perineum.

For work about the mouth or inside the throat, it is of prime importance that the reflexes are as active as is compatible with complete analgesia. Bearing this in mind, we produce dental anesthesia by giving the patient scopolamine 1/100 gr. with morphine $\frac{1}{8}$ gr. and repeat this dose in one-half hour. In exactly one-half hour after the second dose the extraction should be made. This anesthesia is so light, it would more properly be called an analgesia. Patients sleep soundly for one or two hours, and on waking do not seem to know that the extraction has been done even though at the time of the extraction they opened the mouth widely and repeatedly at the suggestion of the operator and voluntarily expectorated.

The anesthesia is administered and the extraction is done with the patient in her bed. No mouth gag is necessary; very little soreness is felt after the extraction and no pain during extraction. If the extraction is delayed beyond the half-hour after the second dose you may lose the co-operation of the patient and not be able to do the extraction until another day.

Surgical analgesia is often desirable for painful dressings, minor or emergency operations and cystoscopic examination, and may be effected in one-half hour by the administration of a single dose of scopolamine 1/50 gr. with morphine $\frac{1}{4}$ gr. A post-operative analgesia may be maintained for twenty-four or forty-eight hours by the hypodermic administration of scopolamine 1/200 or 1/400 gr., with morphine 1/32 or 1/54 gr. every four hours beginning two to four hours after the operation is completed.

Obstetric analgesia without obstetric anesthesia will be produced if the patient is not given her initial dose until after the cervix is more than one-half dilated and is followed by only one of the half hour doses of scopolamine

1/100 gr.; but from this point the two hours dosage is continued as described in the directions for obstetric anesthesia.

THE ADVANTAGE OF ROUTINE RECTAL EXAMINATION DURING LABOR.*

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In spite of our most rigorous strife for the prevention of accidents incident to pregnancy, labor, and puerperium, they still remain very formidable factors. The following quotation was taken from the Children's Bureau Publication on "Maternal Mortality" (No. 19) which says, "according to evidence available the death rates from puerperal septicemia and from other diseases caused by pregnancy and confinement, during the twenty-three years ending in 1913 show no decrease. The death rates of only eleven states can be studied through a period of time (1901-1913) long enough to justify conclusions. Though the rates for each state vary considerably from year to year it will be noted that certain states show high average rates. Among these are the District of Columbia, Michigan, and Rhode Island, whose rates are 17.6, 17.1, and 16.8 per 100,000 of population."

This bulletin also presents statistics showing that among women between the ages of 15 and 44, puerperal septicemia and other accidents of pregnancy, labor or puerperium rank next to tuberculosis as a mortality factor. During the period of 1900-1910, 44 per cent. of this number of deaths were due to puerperal septicemia.

Haarer in summarizing 100,000 cases at the New York Lying-in Hospital (1918) says, "even though the mortality rates be low, it is disconcerting to find that the predominating cause of death, even in selected groups is puerperal infection. The one element of mortality in obstetrics of which we are inclined to boast, and that we ought to have most certainly under control, causes more than twice as many deaths as any other single complication."

Since the days of Carl Braun, the dangers of vaginal examination in labor have been acknowledged by all authorities. Even though rigid technic is followed in the preparation of the patient, the supplies, and attendant's hands,

we all know that we are subjecting our patient to a possibility of infection and have for this reason attempted to limit the number of examinations made. Today careful observation of labor, with its clinical manifestations, and routine abdominal palpation tell us much of the progress of labor. If, to this, we add more supervision by means of routine rectal examinations, vaginal manipulation will be required in but a small percentage of cases. We have been taught that there are certain indications and contraindications for interference in the presence of obstetrical complications. Why then can we not set certain indications for vaginal examination in labor? This surely would be a step forward in obstetrical art. In this paper I hope to show the great advantage of routine rectal examination during parturition.

Kroenig first suggested rectal as a substitute for vaginal examination November 20, 1893, in a paper read before the Obstetrical Society of Leipzig. The method was introduced in his clinic early in August, 1893, and in the three months covered by his report 90 per cent. of all labors were conducted by rectal examination alone. Emil Ries in January, 1894 corroborated Kroenig's teachings but determined the far wider range of its applicability. Even so, all our modern text books have failed to describe its advantages or possibilities.

About ten years ago, routine rectal examination during labor was established in the University of Michigan Maternity Clinic by Professor Reuben Peterson. From my observation in the clinic, which is primarily a teaching clinic, I am certain that rectal examination, supplementing abdominal palpation should entirely supersede vaginal manipulation in the conduct of normal labor, as well as in that group of cases known as borderline pelvis, where we are accustomed to give a thorough test of labor before resorting to operative interference. These are the most difficult of all cases to handle, as a definite prognosis can never be given until after a thorough test of labor. In many of these, cesarean is resorted to, and if so, it is extremely desirable that no vaginal examination shall have been performed, inasmuch as the latter always unnecessarily increases the danger of sepsis. Gross contractions of the pelvis on the other hand are easily recognized from inspection and palpation of the abdomen together with pelvimetry. Hence the main indications for vaginal examination will be either a failure of progress in a supposedly normal case, for which we have no satisfactory or adequate ex-

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planation, or the need of further knowledge prior to operative interference through the birth canal.

For rectal examination the patient does not need special preparation, if the ordinary obstetrical technic of simple enema, shaving, and scrubbing of the outlet, etc., has been carried out at the onset of labor. The dorsal posture I find to be the most acceptable for a satisfactory examination, although the lateral may be used, if one's technic is thus developed. The rubber glove used must be clean but not necessarily sterile, and should be used only for rectal examination, inasmuch as it cannot be safely sterilized for vaginal work by ordinary boiling. Anoint the index finger with sterile lubricant and then gently insert it through the anus, keeping the other fingers flexed in palm of hand and allowing the thumb to fall in one or the other groin crease, thus avoiding possible contamination of vulva. The finger once introduced should be moved about slowly and carefully, avoiding discomfort to the patient as much as possible. It is best to start the examination between contractions and to make a thorough examination, retaining the finger in rectum until the onset of a contraction, in order to observe the effect of the latter on the membranes, cervix, presenting part, and its relationship to the pelvic canal.

It is true one will at times mistake a fold in the vaginal wall for the cervical rim. This is particularly true of cases in which effacement occurs, but in which the external os, although thinning out greatly, dilates but very slowly, and is closely applied over the presenting part. If sufficient time is taken this mistake may always be rectified.

In discussing the advantages of this method I am going to present them from the standpoint of the three main factors of labor, which some one has aptly termed the three capital P's of labor, i. e. Birth Canal or Passage, Fetus or Passenger, and the Forces or Powers.

By rectal touch we can ascertain most points in regard to both the soft parts and the bony pelvis. We can estimate the thickness and resistance of the pelvic floor or perineum, the size of the vagina and the condition of the rectum itself. With the finger introduced at full length, we can feel the cervix and determine its position and relationship to the vaginal axis, its length, which tells us whether effacement, the first step in primiparous labor, has or has not been accomplished. In multiparous labor, effacement and dilatation occur synchronously.

If the cervix is effaced, we then notice the thickness and elasticity of the cervical rim, which in normal primiparous labor thins out gradually to paper thinness. In multiparous labor it remains thick and rubbery to the end. Next, inserting the finger tip inside of the cervical rim, we attempt to estimate the amount of cervical dilatation by entirely circling the rim, or by estimating an arc of the same. Complete dilatation should measure approximately ten centimeters in diameter. For this reason we estimate in centimeters or may compare the actual dilatation to known circular objects, as coins, etc. It is possible to follow the rim in some arc of the pelvis, until it begins to retract over the presenting part. The membranes may or may not be felt bulging into the upper vagina. Tumors of lower uterine segment, cervix, vagina, bladder or in the posterior culdesac may be well outlined, many times more satisfactorily than upon vaginal.

The shape, direction and movability of the coccyx can be felt. This should always be noted, as a fixed or ankylosed coccyx at times prevents delivery of the head at the outlet. The ischial spines are felt and noted as to length and prominence, as occasionally the descent of the head will be prevented by these bony projections. The curve of sacrum and possibly the promontory may be felt, as well as the posterior half of the pelvic inlet palpated, this being the most important portion of the inlet.

As to the fetus or passenger, the rectal finger will at once tell us whether the Cephalic or Podalic pole is presenting. Whether or not engagement had occurred can be told by the amount of fixation of the presenting part, and its relation to the bony pelvis, especially to the spines. Usually one is able to diagnose position by recognizing the sutures or fontanelles as well by rectal as by vaginal, provided the cervix is sufficiently dilated. This latter point is essential even for a satisfactory vaginal examination. Abnormalities of presenting parts may usually be easily felt, as the crepitation which accompanies fetal death; the wider sutures and enlarged fontanelles of hydrocephalus, etc. In my opinion rectal examination is entirely as satisfactory as the ordinary vaginal, except in cases where the hand must necessarily be introduced into the lower uterine segment and an ear or shoulder palpated before accurate position is made out.

Lastly, by a combination of abdominal and rectal examination we can form a good idea of the regularity and strength of the Forces or

Powers, and can prognosticate as to delivery. With the onset of a contraction, the membranes may be felt to bulge through the cervix. If they fail to do so, they have either been ruptured or are tight over the presenting part and are very apt to obstruct the progress of labor, particularly if thick and resistant. This may be a proper indication for vaginal examination and for artificial rupture of the membranes, provided the cervix is one-half to two-thirds dilated, and there has been little or no progress made for some interval of time. The effect of each contraction on the thickness and size of the cervical rim can be noted, as well as any descent of the presenting part. The latter will many times be felt to undergo movements of rotation, flexion or extension, which furnish us further information as to the probable mechanism of delivery. In case the pelvis and fetus are normal, the mechanism is found normal; but if an abnormality exists, the presenting part usually will be felt to undergo an abnormal movement in an attempt by nature to adapt the fetus to the pelvis.

Other complications of labor can usually be first diagnosed by rectal examination. Following early rupture of membranes prolapsed cord has several times been diagnosed in the clinic. Whether or not it is still pulsating can easily be felt. Edema of the anterior cervical lip, which sometimes occurs due to arrest of the head high up or to failure of retraction, can also be diagnosed. Both of these conditions of course are proper indications for vaginal examination and treatment.

As an illustration of the practical use of this method, I would cite a case which has recently been cared for in the clinic. A woman of thirty-four was admitted complaining of pain in the lower left abdominal quadrant. The temperature was ranging from 100 to 103 degrees and there was definite tenderness in the lower abdomen. No definite muscle spasm, however, was felt. Leucocytosis was about 20,000. The clinical diagnosis prior to admission was acute pelvic inflammatory disease with probable pyosalpinx, complicating an eighth month normal pregnancy. In this case vaginal examination was found very unsatisfactory. Rectal examination, however, showed the primary cause of the trouble to be a rectal stricture located about two inches from the anus with a secondary infection of the perirectal tissue above it. The pelvis itself was normal and this patient, subsequently to drainage of the perirectal abscess, delivered herself normally of

twins and underwent a normal puerperal convalescence. This, I believe, illustrates the fact that no examination of a pregnant patient is complete without rectal examination, and that the latter should not be omitted in this type of case any more than in routine gynecological examinations.

There are few if any objections which can be raised against rectal examination. Possible contamination can always be prevented, if a clean rectal glove be employed, and care be taken in avoiding the labia and introitus. If too frequent examinations are made, the rectum may become slightly traumatized and tender, but if the gloved finger is carefully anointed and carefully introduced, this objection may be avoided. The examination then becomes practically painless and annoys the patient usually far less than vaginal manipulation, except in cases where hemorrhoids are already present.

Since this method was introduced in our teaching clinics, students have been able to follow and interpret the progress and mechanism of labor much more intelligently than heretofore. For the busy practitioner it becomes a boon, as it is a time saver and with experience will allow him to prognosticate as to the duration of labor and also to anticipate delivery. When in doubt as to the findings by the abdominal and rectal routes, a careful vaginal may always be done, but for the ordinary normal case, the latter should be found necessary but very infrequently. Certainly not over five to ten per cent. of cases show proper indications for interference of any type, and in my experience all but this small percentage can be properly conducted without vaginal manipulation. Where combined abdominal and rectal examination is inconclusive, or in sudden emergencies, or in preparation for operative work through the birth canal, careful aseptic vaginal examination should always be performed.

In summarizing the advantages of rectal examination, I would make the following points:

- (1). It is easily and quickly performed, and requires no special preparation of either patient or physician.
- (2). It may be frequently repeated and plenty of time may be taken for thoroughness.
- (3). It is practically painless.
- (4). The mechanism of labor can be accurately followed and abnormalities as to birth canal, fetus, or forces noted.
- (5). Rectal disease will be diagnosed and the condition of bowel whether empty or not noticed.

(6). There will be no danger of sepsis.

(7). Last but not least, the obstetrician will have more peace of mind and more freedom from blame in case puerperal complications arise.

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DISCUSSION.

DR. ARTHUR R. MOON, Detroit: Mr. Chairman—I have nothing much to add, but think it a very practical procedure to adopt, particularly for the man in general practice who may not have gloves with him and the necessary things for making a vaginal examination. This can be effected and a great deal can be learned by rectal examination.

DR. HERBERT W. HEWITT, Detroit: Mr. Chairman—I was interested in the Doctor's paper and in the manual rectal examination. It has been only recently that I have practiced it at all and it has come to me from some of the interns from outside of Detroit. I became interested in the matter and tried it, not thinking that I could satisfy myself about the progress that was being made. A great deal can be discovered, especially in the early stages, and it is a very safe procedure to follow, especially outside of the hospital. I think it behooves us all to practice it as much as we can. The more we use it the more we learn about it. At first it did not seem to be very satisfactory, but I think it will come to be used a great deal.

DR. C. HOLLISTER JUDD, Detroit: Mr. Chairman—I think there is a place to use this method, but in teaching students there is always the thing to consider—the duty to the patient and the duty to the student. It is very difficult to find the sutures and the fontanel in the baby's head, and you feel from that point of view you want the men to make all the vaginal examinations possible because it is so hard for them even to find the cervix. I do not believe it is necessary to make a vaginal examination except in some certain cases. Perhaps you are looking for a face presentation and in those instances your hand has to go pretty well up to find what you are looking for. It seems to me you can make a very good vaginal examination if you have two gloves. In the hospital they always give us one glove, but we should have two. We should then spread the lips of the vulva very wide and if we do that we can do a vaginal examination without very much harm. I would like to know what Dr. Peterson thinks about that. Are the men doing more harm than good—are they going to use that knowledge when they go out?

If you have to carry two or three pairs of gloves along, one for rectal work and one for vaginal,

you may get them mixed up, and I do think that you may contaminate the vagina after doing the rectal examination if the hands are not very thoroughly washed.

DR. RHODA FARQUAHRSON, Detroit: Mr. Chairman—We have had no experience at the hospital with rectal examination. I find in the first place that the student cannot recognize the cervix by digital examination, but they do learn and I think that perhaps with the enlargement of our clinic which we hope to have, with a larger number of patients for each student to see, that it might be possible to have vaginal examinations only in the early cases, where you want to teach the student about the cervix. I would like to try this method and I mean to do so.

DR. REUBEN PETERSON, Ann Arbor: Mr. Chairman—As to whether the rectal method is a correct teaching method, our experience at the University has shown that it is extremely practical. Our students have had a good deal of experience with the nonpuerperal woman before they reach the surgical ward, so all the ordinary vaginal examination has been taught them but in the maternity ward they are taught the rectal examination and it has proved extremely satisfactory. Because no matter how careful you may be in teaching a student, there is a certain element of danger to the person who is unaccustomed to making vaginal examination of a woman in labor which can be avoided. Everything that can be taught by vaginal examination can be taught by rectal examination. What has just been brought out is perfectly true. Those of us who were taught all our knowledge by vaginal examination have to revise that knowledge when the examination is made through the rectum. On the other hand, the student can be started in by rectal examination and can very readily be taught all the points that Dr. Bottsford has brought out. In practice the rectal method cannot be too highly spoken of. Of course all sepsis does not come from examinations. This was recently demonstrated in a private case at Ann Arbor where this method was practiced and the woman had a normal delivery, but she had a bad case of sepsis. The history of that patient showed reasons, because the husband had been infected. So all sepsis does not come from vaginal examination, but where we practice vaginal examination and the woman does have infection, every honest practitioner wonders whether there might not have been a slip in the technic and he might not have infected her. So if she does have infection we have a much clearer conscience if we have never introduced a finger into the vagina. But to my mind, the best of all is in the borderline cases where we do not know whether we will have to do a Caesarean section or not. It has been shown in statistics that the Caesarean section increases in danger according to the number of vaginal examinations that have been made. Consequently, if we conclude that the Caesarean section is the operation of selection, we perform it with a very much greater feeling of safety if no vaginal examination has been made. In the maternity clinic all the instruction is given by my assistants and where I am called to a case in consultation for possible Caesarean section, and

I am told that no vaginal examination has been made, I have a much greater feeling of security if, in my judgment, a Caesarean section should be made. From that standpoint alone—and no one can say when labor will become abnormal, although measurements have been made and there is apparently a normal pelvis and a normal child, we cannot say that that labor will be normal, and the patient will be in much better condition if no vaginal examination has been made.

DR. RHODA FARQUAHRSON, Detroit: Mr. Chairman—May I say a few words more? This is something that we can emphasize in our prenatal clinic, and that is the field of external examination. We teach our students that they should be able to tell from an external examination everything that can be learned from an internal examination, except the condition of the cervix. And they make an internal examination only after they have made an external diagnosis. This is required of them. I feel that many more internal examinations are made than are necessary, and I feel that if in the clinic we could teach the student to make his diagnosis entirely from the external examination that we would be doing a great service to the profession in general.

DR. E. W. CASTER, Detroit: Mr. Chairman—I have been interested in hearing the discussion of those who are favorable to this method. I do not entirely agree with those who have so ably defended it to-day. As Dr. Peterson has said, all infections do not come from vaginal examination and my experience is that it is not so great a source of danger as the rectal examination. Unless care is observed there is danger of infecting the vagina, but to my notion there is danger of injuring the rectal mucosa and of getting infection through there. In my experience also it has been much more objectionable to the woman who has been examined than to be examined through the vagina. I do not think it is a very good method to follow out in general practice.

DR. BENJAMIN A. SHEPARD, Kalamazoo: Mr. Chairman, gentlemen—I have only been out two or three years, but I find that to me this method is a very great help in more ways than one. To begin with, in general practice you usually get a "hurried call" and in some cases, especially in primiparas they are quite excited, and as a young practitioner you may also be excited, and you are anxious to know how far everything is advanced and it does not take very much time to make a rectal examination. I will admit that when you are beginning you do not feel much and do not get much out of it, but in using it you find it very satisfactory. You can tell the advancement and make a quite accurate decision on the length of time before delivery, and how much time you have for preparation and how fast you have to hurry in order to get things prepared, and in talking with other practitioners it is rather startling to see how many will go in and make a vaginal examination without any preliminary preparation. It started me to thinking and I inquired into the work of several of those practitioners in regard to infections and asked them to make a quite careful study of certain cases, and I found that although some of them did not get any infection, many of them have what they call "catching cold," have a discharge and temperature for a

week or ten days, and so on. I find that the rectal examination is very satisfactory after some experience in using it. It saves time, and it is very seldom that I find it necessary to make a vaginal examination after making the rectal.

DR. LESLIE L. BOTTSFORD, Ann Arbor, (closing): Mr. Chairman—Evidently there are a great many more vaginal examinations made than are necessary in any sense of the word. As to what the Doctor said about the danger of infection coming from the rectum or from the rectal mucosa, I have never seen a case. It is conceivable that if sufficient examinations were made, or sufficient trauma was produced, that it might happen. In my experience not more than three or four rectal examinations are necessary in a normal labor. I imagine that most men perform more than that number of vaginal examinations.

Of course, vaginal examinations, if carefully performed are not necessarily a source of infection for the patient. That is true. We perform vaginal examinations upon certain cases with careful technic, but it is perfectly impossible to do an aseptic vaginal examination with one glove. Even with two gloves there is danger, as I have had an opportunity to notice in working with an associate in another clinic. His technic and mine, as well as that of another colleague, differed somewhat. This man as the head crowned liked to introduce two or three fingers into the vagina, separating the labia, and to attempt to gain increased flexion of the head. It was peculiar that in his group of cases there was always a larger percentage of febrile cases—not true sepsis, but a higher percentage of mild infections. So I think, that if the rectal examination can be substituted for the vaginal, it can be made use of by any one who is willing to give it a trial, and that he will sooner or later be quite satisfied with it. Of course, it takes time, and in starting to use the rectal examination I would advise them to continue for some time with their former technic, but after each vaginal examination they should do a rectal and keep in mind the stages of labor at that time. If they take this up systematically, they will soon become quite adept and in a short time find it very satisfactory.

THE DIAGNOSIS OF PEPTIC ULCER.*

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From the standpoint of therapeutics, the diagnosis of peptic ulcer is a matter of the utmost importance. The treatment of the case must of necessity be governed by the diagnosis. The medical treatment must extend over a long period of time and should not be undertaken unless the diagnosis is reasonably certain. If the case is to be treated surgically, accuracy in diagnosis will greatly expedite the work of the surgeon. A careful diagnosis may

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differentiate between cases that are surgical and those that may be treated best medically.

It is the purpose of this paper to review a series of 82 consecutive cases in which the diagnosis of peptic ulcer was made and to present what has seemed to us to be the more important diagnostic features. These cases were examined within the last three years in collaboration with Dr. A. W. Crane, having been referred to us for diagnosis. In each case the examination consisted of a case history, the physical examination, laboratory examinations of the blood, urine and stomach contents and a roentgen examination. These examinations were not confined to an examination of the gastro-intestinal tract but were made as complete as possible in order to discover any pathological conditions present. In a large proportion of these patients other pathological processes in addition to the ulcer were found. As a rule the patients were seen on two or more consecutive days. Except in a very few cases, no opportunity was had for the observation of symptoms under hospital control.

Of the 82 cases examined, the diagnosis of gastric ulcer was made in 15 cases, 11 of whom were male and 4 female. The diagnosis of duodenal ulcer was made in 67 cases, 52 of whom were male and 15 female. These findings are in agreement with those of the large surgical clinics, in which it has been found that a large majority of patients with peptic ulcer are males and that duodenal ulcer occurs much more frequently than gastric ulcer.

The typical ulcer history is classical. This consists of a dyspepsia which as a rule has persisted over a long period of time. Pain is usually the most constant symptom. The pain is as a rule epigastric. It is variously described as gnawing, burning or heavy. The pain is definitely related to eating, and comes on in from 30 minutes to 3 or 4 hours after eating. The patients with gastric ulcer usually complain of pain more promptly after eating than do the cases with duodenal ulcer. The pain is ordinarily relieved temporarily by eating or the taking of alkalis. Many of these patients complain of nocturnal pain; being awakened at night when stomach is empty. The pain is not always entirely epigastric. Some patients complain of thoracic pain which usually occurs in the lower left chest. Some of the patients have complained of lower abdominal pain. Other dyspeptic symptoms frequently complained of are nausea, vomiting and belching with regurgitation of sour fluid. Hematemesis and blood

in the stools are further evidence in favor of ulcer that are often brought out in the history. There may be a marked tendency to seasonal recurrences. This is especially true in the cases of duodenal ulcer. The symptoms occur in spells which last from one to several weeks with remissions during which the patient may be entirely free from symptoms.

Of the 67 cases of duodenal ulcer which we have studied, 63 have complained of epigastric pain. Of the 15 cases of gastric ulcer, all presented this symptom. Six of the duodenal cases and one of the gastric cases complained of pain in the lower part of the chest. Lower abdominal pain was manifested by 12 of the cases of duodenal ulcer and two of the cases of gastric ulcer. Twenty-nine of the duodenal cases and five of the gastric cases gave a history of being awakened at night by pain. Thirty-nine of the duodenal cases gave a definite history of temporary relief from the ingestion of food. Of the gastric cases 10 gave a history of food relief. A definite history of relief from the taking of soda was obtained in 30 of the duodenal cases and 8 of the gastric cases.

In the entire 82 cases, a history of hematemesis was obtained in only 4 cases, 2 being duodenal and 2 gastric. This percentage of cases with a history of vomiting blood would seem unusually low. In a series of 743 cases of peptic ulcer reported by Baetjer and Friendenwald, 186 gave a history of hematemesis. Eusterman from the Mayo Clinic reports 30 per cent. of their cases as having a history of hemorrhage, but does not state the percent of cases in which the blood was in the vomitus or the stools. A history of blood in the stools was obtained in 8 of our series of duodenal ulcer cases and in 2 of the gastric ulcer cases. There was, then, a definite history of hemorrhage in 16 $\frac{2}{3}$ per cent. of the series. This does not include cases in which the history was uncertain. Many of the patients thought they had had black stools at times but were not sure whether it was related to the taking of bismuth or iron. Vomiting was a pronounced symptom in 19 of the duodenal cases and in 5 of the gastric cases. The duration of the dyspeptic symptoms is often a matter which is very difficult to elicit in the patient's history. Of the duodenal cases, 22 of the patients gave a history of dyspeptic symptoms from one to five years, 12 gave a history of symptoms from five to ten years, 17 gave a history of more than ten years and in the remaining 16 the duration of symptoms was indefinitely stated. Of the

gastric ulcer cases, 4 had had dyspeptic symptoms from one to five years, 4 from five to ten years and 3 over ten years and in 4 the duration of the symptoms was uncertain.

It is of interest to note that an appendectomy previous to our examination had been done in 9 of the duodenal cases and 1 of the gastric cases.

The physical examination in cases of peptic ulcer is probably the least valuable of any of the means of diagnosis. Tenderness in the epigastrium may usually be elicited. If the ulcer is perforating and extends to a point not far removed from the peritoneal covering of the viscus, there is likely to be muscular rigidity on the right side. The acute perforating cases give the clinical picture of a peritonitis and may be mistaken for peritonitis developing from other sources. In the 67 cases of duodenal ulcer, 44 had definite epigastric tenderness and 13 of the 15 gastric ulcer cases had this sign.

The relation of focal infection to peptic ulcer has been emphasized by many writers. In observing these cases we have been much impressed with the large proportion that have shown infection about the teeth. Thirty-four or 41.4 per cent. of the series had definite evidence of such infection.

Of late, laboratory methods of examination have rather fallen into disfavor in the diagnosis of gastric disease. The information to be obtained from a gastric analysis is, however, of undoubted value in the diagnosis of peptic ulcer. In our experience hyperacidity has been the rule. In doubtful cases a marked hyperacidity might determine the diagnosis. We have not made the diagnosis of peptic ulcer in any case which showed a total lack of hydrochloric acid in the secretion, although we have observed a fairly large series of cases showing this condition. Many of these patients manifested symptoms not unlike those manifested by patients with hyperacidity but were clearly not cases of ulcer. It must be borne in mind, however, that hyperacidity is associated with many chronic diseases other than ulcer. During the last two years we have been using the Rehfuß tube and examining the stomach contents by the fractional method. The patient is given a bread and water test meal and the Rehfuß tube introduced at the end of one-half hour. Aspirations are made at intervals of fifteen minutes—five or six fractions being removed. Many of the cases may show a low acidity or a total lack of acid in the first or second aspirations, and then develop a normal acidity or even an hyper-

acidity in the later aspirations. Undoubtedly many cases examined by the old method of a single aspiration were labeled as achylia or subacidity when they should have been classed as normal acidity or even hyperacidity. Of the 82 cases, 49 were examined by the fractional method and 33 by the single aspirations. Of the gastric cases, 5 had an acidity between 40 and 60, 10 an acidity above 60. In classifying these cases as to acidity, the highest reading obtained in the fractional method is considered. These figures are for total acidity. Of the duodenal cases 3 had an acidity below 40, 13 between 40 and 60, and 51 above 60. Our conclusion, therefore, would be that hyperacidity is the rule and that subacidity is not often found in frank cases of ulcer.

The stomach tube gives considerable information as to the rate at which the stomach empties. The amount of gastric contents that can be removed at the last aspiration indicates how complete has been the process of emptying. Our patients were not given a motor meal the night before the aspirations were made and we have no figures to give as to food remains. Many of the cases of obstruction, however, showed some food residue from the previous meal. Blood in the gastric contents was found on several occasions but not much importance was attached to this because of the possibility of trauma with the tube.

All of the 82 cases were examined roentgenologically. In general the routine of the roentgen examination was the administration of a contrast meal consisting of four ounces of barium sulphate in a glass of water between the hours of 11 and 12 in the forenoon. The barium was taken with the patient in the upright position and the filling of the stomach observed in this position on the fluorescent screen. In many of the cases the duodenal cap was studied by forcibly filling the cap with the palpating fingers. In this way the cap may be filled under pressure and duodenal deformities more satisfactorily studied. A single plate was usually made with the patient in the upright position. The patient was then placed in the horizontal position and the stomach and cap observed in both supine and prone positions. In cases of suspected duodenal deformity or filling defects near the pylorus, serial plates were made showing either four or eight views of the antrum pylori and duodenal cap. The patient was then instructed to take a light meal, preferably a general mixed diet and to observe the time at which the meal was begun.

The emptying time was calculated from the time of the ingestion of the meal which was taken following the barium. Unfortunately for our statistics, we were unable to carry out this routine in all of the cases observed. The study of the stomach motility would seem to be most ideally carried out where the normal physiology is least interfered with. It has seemed that this can best be done with the stomach under its normal load. The patient has been asked to take a light meal immediately after the ingestion of the barium rather than to take the barium mixed with the meal. It has seemed to us that if the patient eats under normal surroundings and eats what is appetizing to him, the normal physiology will be less interfered with than by eating a barium impregnated food in a doctor's office. The patients were observed again at the end of two hours and one-half or three hours, when the stomach was seen to be emptying rapidly and in all cases at the end of six hours. Patients were observed again the following day at which time as a rule a second contrast meal was administered.

The roentgen signs of peptic ulcer have become fairly well standardized. The niche and the accessory pocket are taken as proof of the presence of gastric ulcer. There are other signs which are very suggestive of gastric ulcer, but which are less conclusive than the niche and accessory pocket. These are: first: an incisura usually on the greater curvature: second; hour-glass stomach which may be either spasmodic or organic: third: six-hour retention: fourth; filling defects at or near the pylorus. A constant deformity of the duodenal cap is ordinarily considered as the X-ray proof of a duodenal ulcer. While this sign may not be as entirely reliable as the niche or accessory pocket in the case of gastric ulcer, it is quite usually accepted as proof of the existence of ulcer in the duodenum. Hyperperistalsis in connection with a six-hour gastric residue is also a strong indication of this condition. Tenderness localized over the duodenal cap under the fluorescent screen, is probably of some value but is generally considered of less value than the other signs mentioned.

Of the fifteen cases of gastric ulcer, the niche was found in three. An accessory pocket did not occur. One case was rayed following an operation for the repair of a perforation and the nichen sign which was undoubtedly present before the operation was replaced by a filling defect. Eleven of the cases of gastric ulcer showed a massive six-hour residue. Two of these

showed pyloric obstruction. Seven of the cases had an irregularity in the region of the pylorus due either to spasm or the callosity of the ulcer. There was one case of hour-glass stomach. Two cases showed a persistent incisura.

In the 67 cases of duodenal ulcer 57 showed constant definite duodenal cap deformity. There was a marked gastric hyperperistalsis in 61. Eighteen were observed to have the stomach empty at the end of two hours. Unfortunately not all of the patients of this series were observed at this interval so that this number does not represent the total number empty at the end of two hours. In 11, there was a definite gastric residue at the end of six hours. There was a pyloric obstruction in five. Cap tenderness was observed in 21 of these 67 patients.

In reviewing the roentgenological evidence of ulcer, in the gastric cases it will be seen that the positive nichen sign was present in three cases or 30 per cent. In these cases the history was that of ulcer, epigastric tenderness was marked and a hyperacidity was present. The niche is undoubtedly positive proof of ulcer. A six-hour residue was present in 11 or 73.3 per cent. of the gastric cases. This in itself is insufficient proof of ulcer and must be supported by other evidence. It has always to be borne in mind that other causes may give this sign. Extra-gastric causes, such as gall-bladder disease, appendicitis and duodenal ulcer must be considered. Six or 40 per cent. of our series showed irregularity in the gastric contour near the pylorus. In practically all of these cases the peristaltic waves seen fluoroscopically were interrupted at the point where the filling defects were seen. These defects must be differentiated from those caused by cancer or disease processes outside of the stomach. Two or 13.3 per cent. had definite evidence of pyloric obstruction. In such cases it is sometimes impossible to be sure on which side of the pyloric ring the ulcer is present. The diagnosis between an obstructive duodenal ulcer and an obstructive gastric ulcer is sometimes a matter of great difficulty. In one of our cases of gastric ulcer, roentgen signs were absent and the diagnosis was made on the history, physical signs and the hyperacidity.

Of the cases diagnosed as duodenal ulcer, 57 or 85 per cent. showed a constant cap deformity. This is the best roentgen evidence of duodenal ulcer. Possibilities of error are adhesions about the cap due to disease outside the bowel and the mistaking of an imperfectly filled cap for a deformed one. The

method employed by Carmen and others of filling the cap under pressure is of great aid in avoiding this latter source of error. Deformities due to imperfect filling are not as a rule constant but vary in the different plates. A hyperperistalsis with six-hour residue is considered by Carmen to be conclusive if gastric ulcer can be excluded. Eleven of our cases showed such a residue associated with the duodenal type of peristalsis. Hyperperistalsis and rapid emptying is considered by some observers to be good proof of ulcer. In our series we have not taken this as proof of ulcer unless there were other definite indications of this lesion. Twenty-one of our series showed cap tenderness and we have considered this to be a help in arriving at a diagnosis.

The value of the roentgenological examination in the diagnosis of abdominal disease must be estimated from a consideration of negative findings as well as positive findings. To be able to eliminate ulcer as a cause of abdominal symptoms, does much to clarify the diagnosis. Negative findings for ulcer may make the diagnosis of gall-bladder disease or appendicitis clear.

As already stated in the beginning of this paper, these cases were sent to us for diagnosis. None of them were under our immediate observation for either medical or surgical treatment. They came from many different sources and were treated by physicians who had different ideas as to therapeutics. Of the 82 cases, 17 were operated upon. Ulcer was found in 12 of these cases. In one of the cases diagnosed as probable gastric ulcer with obstruction at the pylorus, the surgeon reported that the ulcer was on the duodenal side of the pyloric ring. In another case in which the diagnosis of both duodenal and gastric ulcer was made, the surgeon reported duodenal ulcer. A third case in which the diagnosis of duodenal ulcer was made the surgeon reported gastric ulcer with complete recovery after gastroenterostomy. In one case in which operation was advised, the operation was deferred and the patient died with symptoms of acute perforation. The attending physician reports that the patient died from a perforating ulcer but no autopsy was made to determine the exact site of the ulcer. In five of the operated cases the surgeon reported that no ulcer could be found. One case had a general peritoneal carcinomatosis. On account of the advanced carcinomatous conditions found, the abdomen was closed without further investigation. In a second case in which the diagnosis

of chronic appendicitis with ulcer was made, the surgeon reported that subsequent to our examination the patient had a hematemesis. Later the appendix was removed and at this time the ulcer was not found. There was a complete recovery following the appendectomy and the use of alkalies. In a third case in which the diagnosis of ulcer was suggested, but not made positively, a chronic appendicitis was the only pathology demonstrated by the surgeon. In this case the diagnosis of duodenal ulcer was suggested by the deformity of the duodenal cap. The patient's symptoms were not those of ulcer and the roentgenological evidence was the only evidence favoring ulcer. A fourth case in which the diagnosis of duodenal ulcer was made was reported as multiple cysts of the liver and right kidney. The nature of the cysts was not demonstrated. A fifth case, in which the diagnosis of probable duodenal ulcer was made, was reported from surgical findings as chronic appendicitis. This case was one in which the diagnosis of ulcer was made on hyperperistalsis with extremely rapid emptying, the stomach being empty at the end of fifteen minutes. The patient also exhibited considerable tenderness directly over the duodenal cap. He did not, however, have a good ulcer history.

While the diagnosis of ulcer made by clinical and laboratory methods may be open to a certain percentage of error, the surgeon cannot be held to be entirely free from the possibility of diagnostic error in dealing with ulcer. Especially is this true of duodenal ulcer. For years surgical and postmortem statistics showed that gastric ulcer was of much greater frequency than duodenal ulcer. Due largely to the surgical work of the Mayos and the perfection of roentgen technic, these statistics have been shown to be incorrect. Gastric ulcers unless they be high upon the greater curvature or on the posterior wall are usually fairly easy to demonstrate with the stomach exposed. They can be felt and as a rule seen. Duodenal ulcers are much more difficult of demonstration. Carmen who is a daily attendant at the Mayo operative clinic says (concerning duodenal ulcers) "A recent ulcer may be so small and shallow that no marked evidence of it can be seen on the outer coat of the bowel; its presence is determined by the surgeon by palpation of the slightly thickened ulcer area, which may also be hyperemic, or may show petechiae after rubbing with the fingers or with gauze. With the majority of ulcers, however, external scarring is visible, but this may occur without marked

contraction or deformity." Wm. J. Mayo says: "The mucosa of the duodenum is thin, smooth and granular and chronic duodenal ulcers may not, therefore, have the characteristics we have learned to expect from experience with gastric ulcers." This is undoubtedly the reason that duodenal ulcers have been overlooked in the past by surgeons at operation or by the pathologist at autopsy. Mistakes may sometimes be made by the surgeon because of inadequate exposure of the parts through a small incision. Except in large clinics where many cases of ulcer are appearing for operation, the failure of the surgeon to find ulcer does not always indicate that the internist or roentgenologist is in error in diagnosing its presence.

The accuracy of the diagnosis in the unoperated cases cannot be determined beyond question. The fact that so many of the cases have improved when put on ulcer therapy may be taken as some indication of the correctness of the diagnosis. So many factors however enter into this therapeutic test that conclusions drawn from it must be uncertain.

Of the cases not operated 33 have been reported markedly improved under treatment by alkalis. Fourteen are reported to continue to have symptoms of pain. Seventeen of the cases have not been reported, either having been examined recently or having been lost track of. Thus the unoperated cases in our series show a very gratifying result from medical treatment judging from the reports which we have received. Granting that the diagnosis be correct, failure in medical treatment may indicate one of two things. It may mean that the ulcer is not amendable to medical treatment, or, what seems more likely, it may mean that treatment has not been thorough and sufficiently prolonged. This is often due to lack of co-operation on the part of the patient, but probably more often is due to a lack of appreciation by the physician of the details of a thorough going medical cure. Patients are willing to go to bed for a surgical cure but rebel at such a procedure in medical treatment. To be successful this treatment should be carried out with the patient in bed under absolute control for several weeks. The dose of alkali should be large enough to neutralize the acid of the stomach and keep it neutralized. This may be tested out by frequent aspirations. The dose of alkali as ordinarily given is altogether inadequate. The treatment must be carried out for several months in order to insure healing. Many of the medically treated cases recur because med-

ical treatment is discontinued as soon as the symptoms are under control. The success of the Sippy clinic in the medical treatment of ulcer is undoubtedly due to careful attention to these details which are so difficult to carry out in private practice.

The series of 82 cases of ulcer may be divided into three classes. First: those which gave a typical ulcer history, had the clinical and laboratory findings consistent with ulcer and had the X-ray evidence of the disease. In this class are 47 of the duodenal and 11 of the gastric cases. Of the 47 duodenal cases in which the diagnosis seemed fairly certain from all points of view, 8 were operated. In 6 of these cases the ulcer was found and in two was not found. One of these cases in which the ulcer was not found was the case in which the surgeon reported that a hemorrhage followed our examination but that he was unable to demonstrate the ulcer later when he operated for the removal of the appendix. The other case was the one in which the surgeon reported multiple cysts of the liver and right kidney. Of the 11 cases of the gastric ulcer in which all the findings indicated ulcer, 6 of the cases were operated and the ulcer found in all. One other died with symptoms of perforation.

The second of the classes into which we have divided our cases are those in which the X-ray evidence of ulcer is fairly conclusive but the history is not entirely typical of ulcer. Of these cases there were 11 diagnosed duodenal ulcer and one diagnosed gastric ulcer. Of the 11 duodenal cases, two were operated and in neither case was an ulcer demonstrated. One of these cases was the one of general carcinomatosis of the peritoneum. This patient had a marked cap deformity with a hyperperistalsis and hypermotility and with a total acidity of 64. She did not have an ulcer history. The second case was one in which the surgeon reported a chronic appendix with no ulcer. This patient did not have a good ulcer history but had a deformity of the duodenal cap with hyperperistalsis and hypermotility marked tenderness over the cap and a total acidity of 64. In this case the diagnosis of duodenal ulcer was not made positively but the attention of the surgeon was called to the X-ray evidence of duodenal ulcer.

The third of the classes is made up of those in which none of the evidence seemed conclusive but in which the diagnosis of ulcer seemed most likely to be correct. Of these cases there were seven cases diagnosed as duodenal ulcer

and three diagnosed as gastric ulcer. Of these only one case was operated and the surgeon was not able to demonstrate the ulcer. This was a case in which the history was not especially suggestive of ulcer but the diagnosis was suggestive by the very marked hyperperistalsis extremely rapid emptying and the cap tenderness associated with a hyperacidity. Of the other 6 duodenal cases in this class none showed a constant cap deformity, but had some of the other X-ray signs of duodenal ulcer.

There are some conclusions to be drawn from this study. First: The necessity of a careful case history has been impressed upon us. The patient should be allowed to tell his symptoms and this statement should be supplemented by questions. Important features of the history should be the character and occurrence of pain, its relation to eating, relief from soda, whether or not it is nocturnal and its periodicity. The duration of the symptoms, the occurrence of vomiting, hemorrhage, etc. should be brought out. The diagnosis of ulcer is not often justified in the absence of a good history of ulcer symptoms.

Second: The stomach tube gives valuable information in the diagnosis of ulcer cases. Hyperacidity is the rule. The fractional method is superior to the single aspiration. Pyloric obstruction and hypermotility can often be determined by the stomach tube.

Third: Physical examination is the least valuable of the diagnostic methods, but should be carefully carried out. Evidences of focal infection are found in large a proportion of ulcer cases.

Fourth: The Roentgen examination gives information that can be obtained in no other way. The routine X-ray examination of cases of suspected ulcer should be made in all cases. Information thus obtained may be as valuable as that obtained at a surgical exploration of the abdomen. Negative X-ray findings are often as valuable in the exclusion of ulcer as positive findings in determining the presence of ulcer.

DISCUSSION.

DR. CHARLES D. AARON, Detroit. This is a very practical paper, and I can only endorse everything that has been said in it.

While a callous ulcer can be readily recognized by the Roentgen ray, unfortunately we cannot make a diagnosis of a florid ulcer in this way. We must depend upon other methods.

For determining the presence and location of gastric or duodenal ulcer, the "string test" devised by Einhorn has been found valuable. The stomach being empty, the patient swallows, pre-

ferably at night, the Einhorn duodenal bucket attached to a braided silk string 85 centimeters long which is knotted just before removal at the level of the upper incisor teeth. A loop at the upper end of the string is placed over the ear to prevent the upper part of the string from passing into the stomach. The bucket is withdrawn on the following morning and the string examined for a red or brown stain. The lower end of it is found to be yellow, and the bucket contains bile mixed with mucus, provided it has passed the pylorus—which it invariably does in from two to eight hours if there is no obstruction at the pylorus. Should the bucket fail to pass into the duodenum, a smaller one is used the succeeding night, and in this manner an approximate idea of the caliber of the pylorus may be gained. By measuring the distance from the knot in the string to the red or brown stain (should there be one), we are able to definitely localize the ulcer. If the stain is 39 to 42 centimeters from the incisor teeth, the ulcer is located at the cardia; if 45 to 50 centimeters, at the lesser curvature; if 53 to 56 centimeters, at the pylorus; and if over 59 centimeters, in the duodenum. I have substituted a large porcelain bead for the Einhorn bucket and find that it serves equally well. If this test be made several times on one individual, and each time a red or brown stain is found at about the same distance from the teeth, the clinician may be sure that a localized lesion of the gastric mucosa exists, which is probably ulcer. This test gains in value the more I use it.

DR. HUGO FREUND, Detroit: I think it is so important, a subject that it deserves a very free discussion. I think all the members should take part in it.

To my mind, gastric ulcer or duodenal ulcer, is of such importance in gastro-intestinal work that it should at all times be considered in endeavoring to arrive at some definite conclusion when the patient complains of abdominal symptoms. We all know that the symptoms of ulcer in a typical case are quite suggestive. However, the presence of a latent ulcer is not always readily brought out by the symptomatology. In such cases we rely upon tests and especially upon the radiographer to assist us in the diagnosis. However, with all that, I believe and am firmly convinced that probably the most satisfactory method of arriving at a conclusion in regard to gastric ulcer is a carefully taken history. I don't think it is outside of the realm of any physician to make what should be a clear cut concise statement of the patient's symptoms. Gastric ulcer, from its symptomatology can very readily be diagnosticated by a thoroughly taken concise history. I want to emphasize that because there are no group of symptoms which point more closely to gastric pathology than some of the typical things a patient complains of in gastric ulcer. I go so far as to say that I believe that sixty per cent. of the value of making the diagnosis lies in a carefully taken history. And so far as the gastric analysis, stool analysis and other tests are concerned, I think that plays a very small part. The finding of blood in the stool, so-called, may come from so many different sources. And hyperacidity with

hyper or hypo-motility is not a diagnostic criterion of ulcer, as we all know. And the various special tests I don't believe bring us much closer to a diagnosis of the condition in many instances.

I regret I cannot place the great reliance that Dr. Aaron does upon the string test. I have used it frequently on cases that were outspoken ulcer. In many cases I tried to check up to see if it bore out some of the things that we found and time and again in outspoken ulcer as proven by history the Roentgenogram and the ordinary test, I failed to get the positive findings I expected to get with the string. True, it is confirmatory when it is found. Its absence, in the presence of other signs, I think is of very doubtful value.

I believe that the Roentgenogram is a very important thing. I would say, and I think we ought to make it more specific in saying, that fluoroscopy is the important thing. The presence of deformity in the duodenal form are among the telltale things of ulcer. In the absence of gastric findings—I think the Roentgenographers will bear us out—the study of the stomach by fluoroscopy and by a series of plates is an indirect method of diagnosis. With its positive findings, it is confirmatory of a careful history. The careful ruling out of other abdominal diseases, appendix, gall bladder, gastric neuroses, when they exist, reflex pelvic conditions and so forth—can be readily ruled out by a carefully taken history of the patient. I believe that Dr. Jackson's paper is a timely one because too many diagnoses are made of chronic appendicitis at this time and appendices are removed where really small duodenal or pyloric ulcer exists. Though the patient gets a great deal of relief from the removal of a slightly irritated appendix or from the reflex symptoms, the probability is he gets as much relief from the rest in bed after the operation—anywhere from six weeks to six months. Afterwards gastric symptoms again come to the front and definite signs of ulcer are present.

LIEUT. COL. PRESTON M. HICKEY, Detroit: I am very sorry I came in so late. I was privileged to hear only part of Dr. Jackson's paper.

The Roentgen ray, when it gives positive evidence, is most valuable. In the absence of positive findings, that is, if we have a duodenal ulcer which gives us a positive, definite record on the fluoroscope and with the plate, you then have something which is more positive, we think, than history or anything else. But, in the absence of direct signs, of course the physician has to take the evidence which is furnished him by the Roentologist of indirect signs with the evidence which is furnished by the other methods. In other words, if the Roentologist cannot furnish positive evidence, the evidence which he does furnish should be taken then in conjunction with the other findings of the history and other methods of diagnosis.

I would like to ask Dr. Aaron his precise measurements of the string, how he would correlate those measurements with the fact that you have so many different types of stomach. If you have an ulcer of the lesser curvature of one of these stomachs, the so-called fish hook type of stomach how could you measure that for the location of a duodenal ulcer by the string test? While the presence of blood upon

the string would be certainly suggestive, I cannot see how the measurements the doctor gave would give you any conclusive evidence of the ulcer unless you first go to the patient and see exactly how long his stomach is. He might have a transverse type of stomach. Of course, the presence of blood upon the string would be evidence of the ulcer as to its location but I would be somewhat skeptical.

DR. C. D. AARON, Detroit: It matters not whether you have a dilated stomach or not. During the night, when the patient is in bed, this string remains in the body all night and by morning the bead is in the duodenum. The ulcer would show itself, if there were an ulcer, at the small curvature. That is to say, it has been found by taking a certain number of cases that if the stain is found at a certain distance from the incisor teeth, it would be in the body of the stomach. It may be possible that an ulcer might be at the greater curvature and may not show on the string at all. I did not mean to imply that every gastric ulcer case shows a discoloration on the string, but it does in the majority of the cases and is of great help to us in the diagnosis—any more than the X-ray many times will not show an ulcer and yet an ulcer will be there. But if we do find it, it is suggestive.

DR. A. W. CRANE, Kalamazoo: Dr. Jackson has given a very frank and valuable analysis of these cases which have been discussed.

The case history as the doctor has stated seems to us a matter of primary importance, but what Dr. Aaron has said about the quiescent ulcer is certainly also true. We have been compelled to accept operating findings from various surgeons and have accepted them at their face value.

To check up careful diagnostic findings against surgical investigation is not always fair to the internist. Then in regard to the positive and negative findings in ulcer, we may say that the X-ray findings of the absence of ulcer may be of a positive character.

If, on the examination of a stomach, we see a good peristaltic wave passing from fundus to pylorus we are able to exclude ulcer of the stomach over the area where the peristaltic wave has passed. I think a perfect peristaltic wave never passes over a gastric ulcer. That may be considered positive evidence of the absence of ulcer, not as a negative finding.

An ulcer of the duodenum, where there is no scar tissue or induration, may give a deformity as the result of contraction. It may be a spasmodic hour-glass type of contraction, or an incisura which will be very persistent indeed, and yet there may be no scar tissue to cause deformity.

DR. JOHN B. JACKSON, Kalamazoo: We have not made use of the string test. As stated in our paper these cases were not in a hospital for observation. For this reason no routine examination of the feces for occult blood was made. In order to have such tests of value, the diet should be controlled for several days. In some of these cases occult blood was demonstrated, but on account of this lack of control of the diet preceding the examination, the results of these tests for occult blood were not included in our analysis of these cases.

THE SIGNIFICANCE OF FOCAL INFECTIONS.*

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It has long been recognized that the full significance of focal infections is not confined to their place of origin or location, but is to be found to a far greater extent in the widespread metastases which may be located at great distances and apparently have no connection whatever with the original focus. The very fact that the accepted synonym for focal is "circumscribed" or "confined" infection illustrates the fallacy under which old-time investigators labored; instead of being the end, the focus is too often only the beginning of the infectious process, which spreads to those tissues of the body which have an elective affinity for the invading microorganism or related strains. Since Rosenow has succeeded in establishing the transmutability of streptococci into pneumococci, it can be easily understood that the vista of possibilities in regard to infectious metastases has only just been opened.

Susceptibility to infection is determined not only by the condition of the individual exposed, but also by his habits, diet, occupation, age, environment, climate, and even sex, or by trauma. If the infection is complicated by a secondary infection, the latter may be unrecognized in the original focus, but will assert itself in the selection of metastatic foci in the distant parts of the body which have a selective affinity for one or another of the species of microorganisms involved.

Metastasis of this kind is dependent upon mutation in bacterial pathogenicity of the strepto-pneumococcus group. Once the danger of metastatic development is properly recognized, the systemic disease will prove to be preventable, or amenable to proper treatment when brought to the notice of the physician. In other words, progressive ill-health from apparently unexplainable causes may be prevented or cured by the removal of chronic foci anywhere in the body, and the full attention and energy of the physician should be directed to their discovery. A systemic infection from unrecognized, unsuspected or unremoved chronic foci may continue for years, gradually poisoning the system. Even if one infected focus has been discovered and removed, and the systemic disease does not clear up, it does not follow

that the theory is wrong, but merely proves that there is yet another focus of infection which will have to be searched for and removed to ensure success.

Among the leaders in this class of investigations may be mentioned Rosenow, Billings and their co-workers who have carried on during the last few years countless cultures and blood studies in animal and man, as well as functional tests. The knowledge thus obtained in regard to the principles underlying the location and nature of the infectious organisms constituting the focus, the method of systemic infection and the resulting morbid anatomy, has served to explain the nature and origin of pathologic conditions hitherto obscure or misunderstood, at the same time pointing out the way to their treatment and cure on rational lines—the extirpation of the offending, previously unsuspected focus of infection.

Any part of the body may harbor a focal infection, and the recognition of these infections being responsible for many diseases which the profession has not been able to deal with satisfactorily on the principles of symptomatology, has gone far toward arresting professional attention and directing it on the right path in its search for etiologic factors. Such centers of focal infection are found in cholecystitis, appendicitis, submucous abscesses, salpingitis, vesiculitis seminalis, and prostatitis; but the one site to which the vast majority of all investigation has so far been directed as the principal offender is in the head, in and about the tonsils, the teeth, and the accessory sinuses.

It is with this form of focal infection that this paper is chiefly concerned.

In the foreground stands the much debated question of the usefulness or otherwise of the physiologic tonsil itself. If it is once accepted as a fundamental truth that tonsillitis is responsible for a large variety of systemic diseases by reason of its pathogenic germs being spread through the blood and lymph streams, it would seem logical to remove all healthy tonsils before they have an opportunity to become diseased, provided the healthy tonsil serves no useful physiologic function. But even those authors who deny the necessity or physiologic advantage of the tonsil and, for example, cite as a proof of that assertion the fact that nursing infants suffer no discomfort whatever as a result of tonsillectomy, have not ventured so far as to suggest so radical a procedure. As long as the physiology of the tonsil is not fully known, it cannot be definitely stated what effect its

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removal would have in a given case. That the uses of these lymphoid structures are still little understood does not entitle us to look upon every prominent tonsil as a defect. Laryngologists agree that large tonsils, standing out prominently in the throat, are generally harmless, because their crypts are usually patent and the drainage ample. Against this must, of course, be counted the disadvantage of their offering a larger area for infection and occasionally interfering with the functions of the throat.

However, the view seems to be more and more generally accepted that the medical profession is only interested in the pathologic tonsil and that the normal tonsil should not be removed. In Johns Hopkins Hospital tonsils and adenoids in children are regarded as physiologically important parts which protect the lower air passages from dust and organisms, and not until they give rise to pathologic conditions is their removal recommended.

Surgical removal is given the preference over local treatment by the great majority of the profession. The local application of iodine and other escharotics has the disadvantage of injuring the mucous membrane of the mouth and gums, with the consequence that the bacteria which are ever present in this region in untold numbers will be absorbed into the blood by way of the lesion. Cleansing the tonsils with alcohol and subsequently rubbing them with finely powdered acetylsalicylic acid seems to have given good results in the hands of Albert Bardes, who claims that this treatment relieves the soreness and arrests bacterial growth. All other local applications, admittedly, do not influence tonsillitis to any appreciable extent.

On the other hand, Rosenow tells us that in his experimental efforts to obtain bacteria for cultures from the depth of the tonsillar focus by expressing the infected material with a laryngeal mirror, it commonly happened that abscesses were ruptured even in tonsils which appeared quite normal on the surface. It is evident, therefore, that local treatment, while it may relieve soreness and improve surface conditions, will not reach the depth of the focus and is therefore useless so far as its extirpation as the seat of metastatic systemic disease is concerned.

The indications for removal of the tonsil, however, depend somewhat upon the malady and the general condition of the patient; but this consideration affects only individual cases and not the broad principle which is here under discussion.

Now we have it on the authority of all the authors who have concerned themselves with the investigation of this question, that the acutely inflamed tonsil, where the crypts are full of dead cells, blood and dust particles, and countless bacteria, may be the focus from which may arise otitis media, sinusitis, mastoiditis, bronchitis, pneumonia, gastric and duodenal ulcer, endocarditis, myocarditis, pericarditis, cholecystitis, iridocyclitis, arthritis (commonly called rheumatism), rheumatic fever, and perhaps other diseases. The chronically inflamed tonsil with pouting crypts may, besides, lead to nephritis and interstitial hepatitis.

To substantiate this array of accusations, which may even be susceptible of further increase, the aid of the modern research laboratory under the guidance of careful and experienced investigators has been required.

About five years ago (1914) Connellan and King isolated from the tonsillar pathologic secretions a gram-negative non-pusforming diplococcus, which has been given the name of its discoverers. This same bacillus has been found in the mouths of patients suffering from arthritis, asthma, endocarditis, myocarditis and nephritis, and the inference that it is the cause of these affections in the cases where it is present seems to have been substantiated by the favorable effect of treatment with an autogenous vaccine made from the pathogenic secretion, followed by removal of the tonsils. The idea of clearing up the infection with autogenous vaccine before operating is prompted by a consideration of the danger of general sepsis following tonsillectomy. King reports that this treatment has been eminently satisfactory in a high percentage of the cases treated. He has found that in the presence of the Connellan-King bacillus the blood changes seem to be those of simple anemia, while in a few cases he has found a slight increase of eosinophiles—four to six per cent. In some of his cases symptoms disappeared for which the inoculation had not been intentionally instituted. Thus, in one patient with arthritis and marked ethmoiditis the culture was obtained from the throat with the object of influencing the arthritis; but after two weeks' treatment the arthritis was only slightly improved, while the ethmoiditis and pus in the nose had entirely disappeared. This shows the affinity of the particular bacterial strain for particular organs or tissues of the body; and on this subject of elective affinity, which is Rosenow's special domain, more will be said presently.

The variations in the strepto-pneumococcus and other groups, while first discovered in cultures grown in the laboratory, are apparently also present in focal infections, the tissues serving as a culture medium. Blood supply, oxygen tension, and unknown biochemic or other factors modify or entirely change their characteristics; this is one explanation of the development of arthritis as a consequence of tonsillitis, of endocarditis from the presence of the streptococci viridans or hemolyticus in alveolar abscesses, and of similar affections on the same principle.

The streptococcus viridans or hemolyticus to which reference has just been made, has a special pathogenicity for malignant endocarditis, with a predilection for old valvular scars and the endocardium, where it causes the development of enormous vegetations and thrombus formations. The only hope for the patient in these cases is complete eradication of the original focal infection whence the germ is carried into the circulation. Myositis, arthritis, and other chronic diseases are instances in which the same microorganism exerts its baneful influence in milder degrees.

At this juncture it may be well to look into the question of bacterial affinity for different tissues of the body. Up to the present the greater part of our knowledge has been derived from experiments on animals, carried on by Billings, Rosenow, and others. From these investigations it seems an established fact that the streptococcus group is possessed of a pathologic specificity for certain tissues when injected into rabbits or other animals. Thus, arthritis was produced in animals which had been inoculated with cultures made from patients with hemorrhagic nephritis; and pancarditis and acute arthritis were the results of inoculation with cultures from patients who had rheumatic fever, endocarditis, and pericarditis.

The specificity of the strepto-pneumococcus group was beyond the pale of understanding prior to the remarkable achievements of Rosenow, who proved the transmutability of these organisms. An important factor in this transmutation seems to consist in the oxygen supply of the tissues, so that characteristics may develop which render the organism pathogenically specific in the myocardium, endocardium, pericardium, gallbladder, pancreas, kidney, mucous membranes of the stomach and intestine, tendons and aponeuroses. Rosenow's method of growing new cultures from microorganisms taken from the original focus has made it pos-

sible to connect the latter with the affections enumerated above, as well as affections of the joint tissues and muscles which have previously been clinically obscure.

The results reached by the research workers in this field do not always agree, but this is explained by differences in the transmutation of the strains, with consequent differences in their pathogenic characteristics.

The strain of streptococcus which produces rheumatic fever has been found to have an affinity for the endocardium and pericardium, often for the myocardium and some groups of the skeletal muscles. There is no doubt that other affinities will be discovered in due time, and it is probably no mere coincidence that patients with thyroiditis have been found suffering with acute rheumatic fever. Billings is convinced that focal infection is the chief etiologic factor in acute rheumatism, chronic deforming arthritis, gonorrheal arthritis, malignant endocarditis, myositis, myocarditis, septicemia of various bacterial types, tuberculosis, nephritis and visceral degeneration, certain infectious types of thyroiditis with or without hyperthyroidism, acute and chronic pancreatitis with or without resulting glycosuria, gastric and duodenal ulcer, and cholecystitis.

The similarity of the pathogenic organisms in the original focus and in the remote infected tissues may be regarded as proving the etiologic relation between the two, for many bacteria retain for a long time the peculiar properties which determine their characteristic localization. The idea readily suggests itself that other diseases, whose etiology is still obscure, may have a similar origin, and there is consequently a wide field open for further research work, experimentation and discovery.

Osborne believes that brain and nerve disturbances as well as neuritis may occur from mouth infections, and that it is quite possible that the continued absorption of concealed irritants in the mouth for months and years may cause arteriosclerosis. He is certainly strongly of the opinion that all kinds of gastrointestinal disturbances, such as hyperacidity, ulcer of the stomach and chronic colitis may be caused by mouth infections and pyorrhea. It is now well known that chronic sinusitis may exist for years and finally be an important factor in the development of systemic disease.

King holds it to be an accepted fact that most patients with septic arthritis or conditions that were formerly classified as rheumatism have a focus of infection somewhere else in

the body. This may be found in the tonsils, ears, accessory sinuses, gastrointestinal tract, or in and around the teeth, but the most frequent focus is in the mouth or the tonsils. That rheumatic fever is a true septicemia is shown by the symptoms of chills, febrile remission, sweats, anemia, leukocytosis, and a partiality for serous surfaces, which coincides with symptoms observed in septic intoxications; and the assertion of older writers that there was no relation between rheumatic fever and chronic rheumatism is refuted by the new evidence. Outbreaks of latent rheumatism are probably due to the absorption, under favorable conditions, of infectious material which has been retained in the tonsils. The respiratory and circulatory diseases of infancy are now held to be of rheumatic origin, and this belief gains ground from a consideration of the fact that all these ailments start with tonsillitis, which sets free the germs of rheumatism.

Thigpen reports that it is a frequent experience with him to find a chronic focus of infection within the tonsils in cases of chronic joint affections, the latter disappearing with the removal of the focus. He further finds that such chronic foci lead to chronic cardiovascular changes, thyroid disturbances, chronic kidney changes, gallbladder infections, appendicitis, phlebitis, neuritis, and other affections.

Cholecystitis, which is often associated with cholelithiasis, is a focal infection that produces systemic disease, and, according to Bryan, it shows its pernicious effect on the myocardium particularly. He found that after the removal of stones or of the entire gallbladder, where indicated, the myocardial changes improved, provided no destructive changes had already been wrought.

If this be considered in conjunction with the reflections of Billings, who believes that cholecystitis, while admittedly a focal infection, is itself due to infection from tonsillar microorganisms, it will at once be seen how the chain of evidence is gradually strengthened, pointing to the pathologic tonsil as the worst offender, responsible for disturbances in the most unexpected quarters.

Hyperplasia of the cervical lymph glands near the angles of the jaws will rarely subside after treatment of carious teeth and alveolar abscesses alone, while tonsillectomy in addition to this treatment, will immediately clear up the condition. This clearly proves the presence of a pyogenic infection for which the tonsillar infection is in most cases responsible.

Goiter is one of those human ills, the successful treatment of which has baffled the wisdom of generations, probably for the reason that the question of its etiology is not yet solved. The fact that no goiter treatment is successful in all cases, and none of them in some, conclusively proves that goiter is due to a number of different factors, all of which have not yet been discovered, and it now appears that focal infection is one of these factors. Billings has found that in certain infectious types of goiter the rapid subsidence after removal of the tonsils by extirpation, and of the infectious foci in the jaws by autogenous vaccine treatment, was explained by the presence of streptococci in the tissues and alveolar pus.

Similarly, Osborne writes: "Teeth and tonsils are frequent causes of thyroid disturbance, causing both hyper and hypo-secretion, and no medicinal treatment will effect a cure until the foci of infection have been removed. The thyroid may be considerably enlarged and yet give no symptom of increased secretion and need not be cystic. This is shown by the surgical removal of the mouth infection."

There can be no question that the constant absorption of irritants or poisons from the mouth may cause renal irritation and chronic nephritis, even if focal infection of the kidney is not thus caused. Many a case of autogenous or purulent infection of the kidney occurs without any apparent explanation, and some authors hold that these obscure cases are mostly due to infections of the mouth, tonsils, or sinuses adjacent to the nose. In the early stages of glomerulonephritis, tonsillectomy may be worthy of consideration.

Osborne raises the question whether pyorrhea may not be the cause of chronic colitis or at least of decomposition in the colon, as both these conditions occur most frequently after forty years of age. This theory, of course, at once raises the entire question of intestinal stasis, its origin and its effect on distant parts of the body, as not only Lane but also those investigators who refuse to hold intestinal kinks and bands responsible for intestinal stasis regard the latter as the prime causative factor in just such affections as tonsillitis and a host of others.

As to pyorrhea, Schamberg denounces the practice of removing one infected tooth and leaving others in the mouth. The mouth should be kept free from infection at all costs, even though it should mean the removal of every tooth in the head, and he prefers a toothless

mouth to one containing a single focus that menaces the health of the patient. Frequent roentgenograms should be taken, not only to discover every suspicious root, but also to inspect from time to time all crown and bridge work, in order to discover any disease in the hidden parts. In this connection the modern practice of dentistry comes in for severe condemnation at the hands of Osborne, who believes that there is no greater menace to health than crowned and bridged teeth, to say nothing of imperfectly filled and dead teeth, inasmuch as the hidden bacteria are preserved thereby and are ever ready for mischief. He also insists that no dentist should devitalize a tooth, or attempt to fill the roots of a devitalized tooth which is to be preserved, without the aid of roentgenograms. The same aid should be invoked for the purpose of recognizing chronic alveolar abscesses, which often exist unknown to the patient, and film roentgenograms of the jaws are often the only means of such recognition.

In cases where there are multiple foci, such as are found around the teeth, too much manipulation at one sitting is likely to stir up infection and cause abrasions which may serve as portals of entry for the various organisms which are ever ready to invade a buccal lesion.

The extreme care necessary in searching for foci about the teeth is exemplified by one of Rosenow's cases of dental neuritis and myositis, in which the focus was found in the pulp of a dead molar, while no demonstrable lesions were found in the jaw. The removal of the tooth, while helpful, was not followed by the prompt disappearance of the symptoms. Streptococci, demonstrated in sections of muscle excised from the neck, were alive ten days after a typical attack of spasm and pain.

As to tuberculosis, Lermoyez regards chronic lesions of the tonsils as an open door for the entrance of the tubercle bacilli.

In the treatment of affections of the nervous system a search for foci of infection should always be instituted, as their possible influence cannot be overestimated.

In regard to contraindications to tonsillectomy and conditions which render such intervention undesirable, the *Journal of American Medical Association* summarizes the tentative conclusions reached by Crowe and his associates in the Johns Hopkins Hospital as follows: The operation should never be undertaken during the acute stage of tonsillar inflammation, as a cerebral abscess may result. Diabetes is as

much a contraindication as it may be for any operation necessitating general anesthesia. Tonsillectomy is rarely of benefit in the chronic deforming types of arthritis, in many cases doing probably more harm than good. The Baltimore surgeons are further convinced that nothing is to be gained from a tonsillectomy during the acute stage of chorea, acute rheumatic fever, or endocarditis. Their experience shows that even after the nose and throat have been put in normal condition by operative measures these diseases may recur. In any event, the tonsils are not the only portals of entry for the etiologic organisms, and their removal in an interval free from symptoms can be justified only on the plea of preventing further cardiac lesions which may result from acute tonsillitis. The frequency of heart and joint defects in chorea may justify such a prophylactic measure.

However, it is a generally acknowledged principle which brooks no contradiction that the cause of a disease must be eradicated or overcome in order that a cure may be effected; and the study and removal of focal infections as causes of systemic diseases deserve the most serious attention of the profession. The Baltimore injunctions merely emphasize the fact that the treatment must be individual and managed according to indications. This also refers to the character and localization of the focal infection. While in most cases the pathogenic factors will certainly be found in the pathologic tonsil or teeth, a careful search for other foci in any other part of the body cannot be dispensed with, and in this connection special attention should be paid to the sinuses adjacent to the nose. In this region infection may exist for years in a latent stage, and is liable at any time to become active and cause trouble, so that it is absolutely necessary to remove any infection, latent or active, that may be found there. This is in accord with the accepted modern principle of preventive treatment. To allow slumbering infectious foci to persist is tantamount to inviting chronic invalidism, even should no more serious well defined diseases result. Indeed, it is often found that patients whose strength and vitality are reduced from long illness suffer from alveolar or other local infections, the persistence of which will prove an obstacle to their full recuperation.

The treatment, therefore, should not be confined to the eradication of evident foci—because, as Rosenow points out, similar conditions may be present in inaccessible foci and in others

too small to be detected offhand. A small metastatic lesion may continue the process independently of the original source, and it should be clearly understood that the removal of the infected area in the mouth does not remove the microorganisms localized in distant parts of the body. Inflammation in distant parts will not be abated, nor disintegrated tissue restored by extirpating a tonsil, but the latter process will prevent a fresh supply of toxic material being furnished and thus render the infected distant parts amenable to indicated treatment. No treatment of these conditions will be effective unless the focus in the mouth, or wherever it may be located, is destroyed. But, as the Baltimore investigators put it, tonsillectomy will not cure tuberculous cervical adenitis, arthritis, or glomerulonephritis. Systemic diseases have to be treated as such, after the focus of infection has been destroyed; but unless it is destroyed, any part of the body which has been clinically treated is liable to reinfection by the germs which have an affinity for those tissues as long as these germs are allowed to grow and multiply and spread from the original focus.

In cases where major lesions are widely distributed or long continued, the history of throat or mouth lesions is less often obtained than when the trouble is obviously active in the latter region, but it is so much more important to obtain the history of old or subjectively unimportant throat troubles, as these conditions often antedate the major systemic affections by very considerable periods. Likewise secondary foci in lymph nodes in the vicinity of the primary foci and of infected distant parts may increase the virulence of the general infection by adding more fuel to the flames.

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DISCUSSION.

DR. E. W. HAASS, Detroit: I don't know of any subject in medicine of quite so much importance at the present time as the question of focal infection. I don't know of anything that has stirred up so much bitterness. Only this noon I stopped in to have a bite of lunch and I met a specialist of Detroit. I told him about this paper. He said, "I am awfully glad. It is a very important question. Only a year or two ago it raised hell with my practice; but they have come back, all without their teeth, their tonsils and appendix, they are all back to me just the same. I don't know of a single patient benefited by any of the work done on them by the removal of focal infection."

I know he is one of the busy men in the city of Detroit. However, he is not here to listen to the paper or listen to the discussion. He went back to his office to make more money.

What is the truth? In this subject, you have to be sure of two things, a systemic condition that can be caused by focal infection, some of the things the doctor mentioned in his paper. The second thing you have got to know or prove—you have a very definite focus in the body. Let us get some examples of this.

For example, we may have an endocarditis or cardiac lesion supposed to have been caused by some infection that has entered from the tonsils. We may even be able to demonstrate there is in that individual a diseased tonsil. We advise the patient that if they have the tonsils removed the endocarditis will disappear; or if it has already disappeared, we will say that the avenue of entrance is gotten rid of and the patient will be all right. Is that so? Every clinician will tell you they have had patients suffer a year or two. I know myself in patients I have observed they have suffered from endocarditis, very definite conditions long after the tonsils have been removed, and in a year or two or year has gone on with new destruction of the valves. In order to learn anything from this, we must know the following—that an infection can enter the system through some portal and then whether we remove the portal or not, it may still be able to transplant itself in some other place. If the organism is already in the valves, it may transplant itself just the same as it did from the appendix. It is an entirely different condition. If we have a toxic condition, which is the result of absorption from some focus of infection, that is a different condition entirely. As a result, we can have very definite inflammatory conditions in the eye, of which we have all had demonstrations; and we can have pathologic conditions growing out of the circulatory apparatus in the kidneys. If we could say that we had a certain change, that must come from a certain condition. For example, if we had a neuritis we could say such a condition must come from focal infection in the teeth; if we had a kidney condition such must come from the tonsils, we could get somewhere. But such a scheme is absolutely impossible to develop.

It has been shown by Dr. Morse of Harper Hospital, there is a close affinity between the skin and the kidneys. Patients who come in with extensive burns and who die always show a very extensive involvement of the kidneys. That seems to be very definite. We can't say that if a person has a definite kidney condition, it must come from a skin infection. What can we say about such a kidney? It has been my practice if a patient comes to me complaining, and examination shows the patient has albuminuria and very often has no injury at all, that patient can be said not to be suffering from nephritis but from absorption from some focus. Those are the patients from whom we can hope to gain something by discovery and removal of the focus. If we find such a condition, we have justification for looking for a focus. That focus may be in the upper respiratory tract. Removal of it will promise the patient something.

Taking up the question of the teeth. Probably one of the most important subjects, because abused so often. What can the teeth be said to be responsible for? In the first place, if the patient

suffers from the fact that dentistry has been, you might say, too good—the dentist has been too sparing of the patient's feelings—the modern dentist will tell you that any work that is done on the teeth preliminary to removal of pain or killing the nerves is always a destructive process. Every one of those conditions has hurt the patient so far as the creation of an active infection. You cannot have dental work done with the destruction of the nerve and save pain, if you want to be sure you don't have a focal infection.

That has been the practice of dentistry up to a few years ago, and is present at the present time. You see how many potential mouths there are. A patient will tell you, "I have never had any trouble with my teeth, never had a tooth abscess." It is not the patients that have a thing easily expressed that have any difficulty. I don't take any stock in the subject of pyorrhea as the cause of nephritis. It is only conditions where it is locked in, where you have this condition under pressure. Those you cannot tell by your ordinary methods of examination. In other words, there is no justification for our saying the teeth are the cause of any trouble from the fact that we can express a lot of pus from the side. If the pus can be expressed, there isn't any focus. It must be made by an expert, and that expert must do it almost always by means of Roentgen examination plus some other method such as electrical conductivity test and so forth. Of all these examinations, the Roentgen is the most important. That is not always infallible. It depends on the interpreter, the man who is able to interpret plates.

For example, I had a case referred to me about six months ago suffering from neuritis after confinement and the obstetrician wanted to know if the patient was suffering from sciatica on account of injury. My diagnosis was she was suffering from toxic neuritis. There wasn't any other condition that would account for it, either in the blood, spinal fluid, or any other examination that could be made. In looking over the patient, nothing could be found at all that would cause the trouble except possibly her teeth. She had been to a dentist and they found she was suffering from an apical abscess and the tooth was removed but her condition was becoming entirely unendurable.

The result was the patient desired to be examined in another town. So I referred her to Dr. Patrick of Chicago. He made the same examination. He demanded that her teeth be X-rayed again. They found she had two more apical abscesses. The removal of those two teeth cleared up her condition immediately. My error was I accepted the results of one person's examination, which puts us in a very precarious condition.

We must know who does our referred work or we will make such mistakes. I have known patients to be reported negative at some good clinics who have been re-examined in other places and have had

eight or more teeth that were definite harborers of infection. That is a condition hard to obviate sometimes. That is why this subject got in disrepute. We must know we have a very definite condition in the body and we must know we have a focal infection. If you have a patient suffering from neuritis due to tabes, the pulling of any number of teeth won't relieve the condition. The error starts with the faulty diagnosis in the first place. The patient can't hope to get any benefit and the whole question goes into disrepute.

Neuritis is frequently the result of absorption from the teeth, and the teeth there have more to do with the cause of the neuritis.

The next most important sources of infection are the sinuses. The tonsils, the teeth and the sinuses are more important than anything in the abdominal body as causative factors.

As far as the appendix is concerned—the appendix, gall bladder and so forth, I think that the conditions traceable to the gall bladder for example are not caused by infection in the gall bladder itself but are caused by the condition that caused the gall bladder disturbance. The same thing for the appendix. We know how often, after periods of infection like we had this winter, how many cases of appendicitis we have. Any number of cases of appendicitis are brought to the clinic after this last epidemic of influenza. Of course, it was a sad result, because the infection was almost overwhelming as it was. Any arthritic condition would not be the result of the infection of the appendix, but rather the thing that caused the inflammation of the appendix. So that I think now we have been ascribing entirely too much weight to the conditions in the abdomen as being per se the causative factor in focal infection.

THE CHAIRMAN: Dr. Rich will continue the discussion.

DR. HERBERT M. RICH, Detroit: As I am to discuss this same subject in a way in my paper tomorrow afternoon before this section I don't propose to steal my own thunder by talking about pulmonary tuberculosis.

I would like to make a few remarks about two common complaints of the diseases of the chest which are due to focal infection. In the first place, one of the common complaints is pain in the chest, of rather a definite character, not always in the same place, a pain severe enough to bring the patient to the doctor. Examination of the chest reveals nothing. There is no pleurisy. There is no fever. No signs of disease of the lungs. In other words, the condition is evidently a myalgia. By occlusion we arrive at such a conclusion. Now this myalgia is, in my experience, usually due to apical abscess, and pulling the tooth will go a long ways towards clearing up this myalgic pain in the chest.

There are two things I keep in my mind when I send the patient to have the tooth pulled, if you find there is an apical abscess. In the first place, I

tell him he will probably be worse. They usually are for a time. I tell them, "If you have a fire in a barn, putting out the fire does not replace the barn. At the same time, you will find it important to put out the fire." So we pull the tooth, to put out the fire. That is a homely illustration. I tell them they should not expect to be well after they have the tooth pulled. They come back for further treatment. The tooth having been pulled you have some chance of success in your treatment of myalgia.

The second disorder is frequently asthma. Since Walsh in 1910 gave attention to the symptoms, we have made more progress in the therapeutics and there are very few cases of bronchial asthma now which we cannot at least relieve. While it seems impossible to cure them all perhaps, we can give them relief of a more or less permanent character. Now these patients present a remarkable variety of etiology.

They all exhibit the phenomenon of sensitization or antiphylaxis. In many cases they also exhibit focal infections. Why the new born infant should be sensitized to the egg albumin is a fact I never heard explained nor any attempt made to explain. But it is not very difficult to imagine the reason why a person with pus in his ethmoid cells might not become sensitized. In fact, it is useless to desensitize and leave those ethmoid cells closed in. Bronchial asthma due to such focal infection is never cured until the focal infection is treated. Although you may relieve these patients by temporary desensitization, these forms of asthma due to foods and to bacterial infections fall largely under the same category.

I may only say in closing that I believe it is a mistake to tell patients they will be cured by the removal of the focus of infection because, in my experience, they rarely are. What we do is to give ourselves a chance for successful treatment after the focus is removed. The patient should thoroughly understand that before they have a resection.

THE CHAIRMAN: I think it would be well to hear from a certain man. I would like to call on Dr. A. W. Crane, from Kalamazoo, to continue the general discussion.

DR. A. W. CRANE, Kalamazoo: A paper on this subject is always timely. Ingersoll said once that a question was always as fresh as a daisy until it was settled. It is evident that the question of focal infection is not wholly settled. I confess that I am entirely in accord with Dr. Aaron in his discussion of the subject.

The frequency with which a focal infection about the teeth is associated with some internal disorder and the good result which so often follows the removal of the infection forces belief in the substantial accuracy of that position. I think it has already been fully discussed that the removal of the infection does not always cure the disease, but

of course that does not disturb the accuracy of the general proposition.

Now, in regard to the teeth, there is one point that has not been brought out fully that explains to some extent why a small infection about a tooth is more important than an infection, say, in the gall bladder or appendix or an abscess elsewhere in the body, where the quantity of infectious material is greater than that around a tooth; and that is because it is next to a solid bony process which prevents the carrying off of the infection, and which furnishes an ideal absorptive surface for the infection. There is in some cases a walling off process finally accomplished. That will be seen frequently on the X-ray film. There is a dense area of the bone sometimes about a tooth, and the tooth may be imbedded in it so that when it is withdrawn, that hardened bony part of the alveolar process will be brought away with the tooth. In the X-ray film the tip of the tooth will be seen to be imbedded in this hard bony process.

We may say that here is the final end of the focal infection as it has been actually carried on by the natural processes. The idea that pus under pressure is a necessary condition of absorption is certainly not true. In the apical abscesses at the roots of teeth, shown by X-ray films, there is really not an abscess but a little bunch of granulation tissue bathed in pus. The pus is not under tension. It will ooze out from the edge of a tooth. There is constantly going on an absorption into the alveolar process that is not walled off and the effort on the part of nature to fill that in with granulation tissue is, in most cases, entirely ineffective.

The subject is almost inexhaustible and has opened up so many avenues of inquiry, such as antiphylaxis and the question of tissue affinity, that I presume many more papers will be presented in the future before this association.

THE CHAIRMAN: Dr. West of Kalamazoo is not here. We have a few minutes left. Dr. Begle, have you anything to say along this line?

DR. HOWARD BEGLE, Detroit: I did not intend to discuss this paper. I am very much interested in this subject in connection with eye conditions. I feel that it is extremely important for a man dealing with eye diseases to carefully examine the teeth, especially this one condition of iritis.

Of course the large majority of cases of iritis—I would not say the majority, but perhaps forty per cent.—of iritis cases are due to syphilis. So my very first examination is an examination for syphilis combined with laboratory tests.

I think the second important cause is from apical abscesses at the roots of teeth. In my experience, especially the teeth with crowns are the ones which are apt to be at fault. In talking with a dentist not long ago, he made the remark that crowns which were put in a few years ago, ten years ago,

were invariably put in improperly. And it is certainly surprising how many of the crowns are in poor condition. Of course our main test there is the X-ray; but personally, I don't believe that we should depend upon that too much. If we have excluded every other cause and there are crowns, it is entirely possible and I believe right that the crown or perhaps the tooth should be removed, especially if it is a tooth not extremely valuable to the patient. I have such teeth removed and in those cases it is often a cure of the condition. It is a cure of the condition, and the function of the eye will be restored to normal.

Most of the cases of iritis which occur from the teeth are of the plastic type and not severe cases, cases in which the eye is red and somewhat painful, but they are cases marked by their pronicity rather than by a large amount of exudate being thrown out. The cases in which there is a lot of pus

thrown out from the eye are not due to the teeth.

I see more cases which last over a long period. Fortunately they do not do a great deal of damage to the function of the eye. After a case of iritis has run a month or two months or even longer, a few offending teeth are removed and the eye will clear up and you will get a perfect vision after.

I am inclined to believe there must be rather a strong connection between the teeth and the eye. In my experience, focal infections of the tonsils have rarely set up eye conditions. I don't deny they may be set up from that source. I am inclined to believe that the eye affected has relation with the teeth and that the teeth are actually on the same side of the jaw as the eye affected. That would seem to be perhaps only a natural conclusion. In my experience with cases that has been, I think to some extent, borne out.

NEW AND NON OFFICIAL REMEDIES.

Atreol.—An aqueous solution containing as its principal constituent the ammonium salts of a mixture of organic acids containing nitrogen in the sulphonic radical which results from the action of sulphuric acid on certain petroleum distillates. Atreol is applied locally for promoting the absorption of swellings and effusions in contusions following fractures, etc. It is claimed to be useful in dermatologic and gynecologic practice. It may be used in aqueous solutions, ointments and suppositories. The Atlantic Refining Co, Philadelphia, Pa. (*Jour. A.M.A.*, May 17, 1919, p. 1463).

Gilliland's Concentrated and Refined Diphtheria Antitoxin.—Marketed in ampules containing 1,000, 5,000 and 10,000 units each. For a description of Diphtheria Antitoxin, Concentrated, see New and Nonofficial Remedies, 1919, p. 280. Gilliland Laboratories, Ambler, Pa.

Gilliland's Concentrated and Refined Tetanus Antitoxin.—Marketed in ampules containing 1,500, 3,000 and 5,000 units each. For a description of Tetanus Antitoxin, Concentrated, see New and Nonofficial Remedies, 1919, p. 266. Gilliland Laboratories, Ambler, Pa.

Gilliland's Antipneumococcus Serum, Type 1.—Marketed in vials containing 100 Cc.; also in double ended vials containing 50 Cc. each, with a gravity injection apparatus for intravenous injection. For a description of Antipneumococcus Serum, see New and Nonofficial Remedies, 1919, p. 271. Gilliland Laboratories, Ambler, Pa.

Gilliland's Small-Pox Vaccine.—Marketed in sealed capillary tubes in packages containing two tubes each. For a description of Vaccine Virus, see New and Nonofficial Remedies, 1919, p. 274. Gilliland Laboratories, Ambler, Pa.

Gilliland's Original Tuberculin, "O. T."—Marketed in 3 Cc. vials. For a description of Old Tuberculin, see New and Nonofficial Remedies, 1919, p. 277. Gilliland Laboratories, Ambler, Pa. (*Jour. A.M.A.*, May 17, 1919, p. 1463).

Barbital-Abbott Tablets, 5 grains.—Each tablet contains 5 grains of barbital-Abbott (see New and Nonofficial Remedies, 1919, p. 82). The Abbott Laboratories, Chicago.

Procaine Hypodermic Tablets, 3/4 grain.—Each tablet contains 3/4 grain of procaine-Abbott (see New and Nonofficial Remedies, 1919, p. 30). The Abbott Laboratories, Chicago.

Procaine-Adrenalin Hypodermic Tablets.—Each tablet contains procaine-Abbott 1-3 grain and adrenalin 1-2500 grain (see New and Nonofficial Remedies, 1919, p. 30). The Abbott Laboratories, Chicago. (*Jour. A.M.A.*, May 17, 1919, p. 1463).

Protargentum-Squibb.—A compound a gelatin and silver containing approximately 8 per cent. of silver in organic combination. It has the actions and uses of silver preparations of the protargol type (see New and Nonofficial Remedies, 1919, p. 307). Protargentum-Squibb is used in 0.25 to 5 per cent. aqueous solutions, prepared freshly as required. E. R. Squibb and Sons, New York. (*Jour. A.M.A.*, May 24, 1919, p. 1543).

Antimeningococcic Serum (Combined Type) (Gilliland).—Marketed in 15 Cc. and 30 Cc. ampules and in 15 Cc. and 30 Cc. cylinders with attachments for spinal administration. For a description of Antimeningococcus Serum, see New and Nonofficial Remedies, 1919, p. 270. Gilliland Laboratories, Ambler, Pa. (*Jour. A.M.A.*, May 24, 1919, p. 1615).

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

A. L. Seeley, ChairmanMayville

M. W. TolesLansing

R. S. BucklandBaraga

Editor and Business Manager

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On Leave of Absence on Duty

Medical Reserve Corps, U. S. A.

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Secretary Editor, pro tem.

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July

Editorials

THE HOSPITAL SITUATION IN DETROIT.

Detroit is suffering from the lack of hospital accommodations. It is quite difficult for many of the reputable physicians to get their cases into a hospital. The Henry Ford Hospital at the present time houses Base Hospital No. 36 of the U. S. Army. Detroit has grown so rapidly in the last fifteen years that it has been unable recently to care properly for its sick or its visitors. Hotel Pontchartrain closes its doors next fall?

We are informed that the Board of Trustees of Harper Hospital have decided to make that Institution a closed hospital. As this hospital is always filled, it makes very little difference theoretically whether its patients are taken care of exclusively by its staff or not.

At a special meeting of the Wayne County Medical Society May 26, 1919, there was quite a general discussion on the Harper question.

Dr. Ballin stated Harper's position and Dr. Babcock gave a very fair statement as to the advantages and disadvantages of the open and closed hospital. The meeting was apparently in favor of the open hospital. Mr. Culver of the "Little Stick" who was present at this meeting closes a characteristic article of his with the following:

"If the scheme is allowed to go through, it is up to Detroit's Delegation in the Legislature to see that proper legislation is passed to remove Closed Hospitals from their privileges of tax exemption and it is up to the charitable people of Detroit to see that their contributions are given to institutions which serve all the people and not patients of the selfish clique of physicians and surgeons who are scheming to put this thing over."

Mr. Culver's criticism of the Staff is as far as known an assumed proposition.

However we feel in regard to the closing of Harper Hospital, we all know that Detroit needs more hospital beds and more hospital accommodations. It would seem a good time for the City of Detroit to build and run a modern City Hospital. We also feel that the staffs of the several hospitals should so utilize their beds that the more urgent hospital cases could be taken care of and that those cases which can properly be cared for outside, should be denied admission under present circumstances.

A WORD TO THE MEMBERS OF THE MICHIGAN STATE MEDICAL SOCIETY.

Few things in this world have escaped the disintegrating effects of the great world war and our society has not been one of them.

Absorption in war activities, the absence of many of our members in the service and the overworked condition of those left to carry on civilian practice, have tended to divert our attention from the scientific side of our profession and to make us cold to the social side.

By reason of this the report of our secretary showed at the Detroit meeting that on May 29, there were 797 of our members in arrears for

their subscription to the Journal and 2,026 were paid up. Since that date a few have paid but still the fact stands that over one-third of the members of our society in good standing in 1917 or 1918 are now delinquent. Some of the men unpaid are doubtless still in the service and their County Societies have not paid their dues for them as has been done by a considerable number.

Should these all pay on their return, there will still remain too large a number of unpaid subscriptions to the Journal, which is our standard for ready estimate of the condition of the state society and of the County Societies as well.

Unless the County Societies flourish the state organization is bound to languish and it is up to every former member to get off his coat, put on his jumpers, overhaul the carburetor, test the spark, blow up the tires and then crank his arm off to get his local society going. Get your men together, give them a good feed, pick out the livest wire among them as your secretary, or, better yet, program chairman, then invite some outsider to give you a paper on a subject you will want to listen to; post your men on the proposed subject and have them prepared to slash the paper to pieces.

Nothing adds to the zest of a meeting like a hot discussion that almost draws a blister.

Then hold your meetings oftener. Drop the knocker's hammer and pick up the booster's trumpet and blow for all you are worth, and we will make this reconstruction year the best one in the history of medicine in Michigan.

C. H. B.

AMERICAN COLLEGE OF SURGEONS.

NEWS-LETTER CONCERNING HOSPITAL STANDARDIZATION.

These pages are to express gratitude to the Fellows of the College for their good help in the hospital standardization of the College and to enlist on the part of the Fellows still further conscientious service for the betterment of the practice of medicine through that program. Further, two questions are here briefly answered: First, what is hospital standardization?

and, second, what has the College accomplished toward hospital standardization?

WHAT IS HOSPITAL STANDARDIZATION?

To define hospital standardization in a negative way, it is not an effort to make hospitals alike in form of government, of administration, or of equipment; it does not seek to enforce conformity to any given mold nor to limit originality in any phase of hospital work.

Hospital standardization means thinking alike on the part of doctors, hospital trustees, hospital superintendents, laboratory workers, nurses, and the public upon the aims and utility of hospitals. It means that every patient in a hospital is entitled to the most efficient care known to the medical profession; and that every hospital believes itself morally obligated either to render such service to its patients or to state frankly to the patients that it cannot do so.

The entire program of hospital standardization undertaken by the College is a gift to hospitals and to the medical profession. But in so far as any such program is one of reform, that program may or may not in a true sense be a gift. In what way, then, is the effort of the College a gift? This question is important. The answer to it lies in the method itself with which the College has taken up the work.

There are two methods by which hospital standardization may proceed. The first is scientific; the second, human. These methods are not entirely exclusive, one from the other, but the difference between them is, nevertheless, the difference between a gift of lasting worth as against an uninvited interference of doubtful value.

The scientific method is concerned with its own point of view. It is interested in the outcome of its actions on others. It assumes that men and institutions are to be governed and that, having determined upon a best form of government, there is no right of appeal by the governed. Under the scientific method hospital standardization would say to the hospitals: "I have analyzed correctly my own duty toward you and you must therefore accept all that I do to you. You may not like it. Here is a plan

for the betterment of hospital service. You must co-operate by accepting it. It will do you good."

The scientific method has wrecked many a worthy project of reform. It prejudices men against all systematic progress. It is a prevailing foolishness among us which keeps the millennium undated. It is a blunder which the College in its relations with hospitals and the medical profession resolutely determined not to make.

The human method never forgets the point of view of others. In fact, that is the only point of view which it knows. It assumes that men are intelligent and open-minded. But it is not sentimental or merely "sugar and spice and everything nice." It values straight thinking and accurate data quite as much as does the scientific method. Under the human method hospital standardization says to hospitals: "Here is a plan for the betterment of hospital service. It is a plan which grew out of our own heads and hearts after conscientious and long effort on the part of all of us to devise such a plan. Will you please consider whether or not you will accept it? Will you become a rival for the light under the terms of this plan?" This is the method with which the College took up hospital standardization.

That some concerted action for the betterment of the practice of medicine is needed, no one questions. The opportunity to be a part of such action faces each of us. Five years ago the field of hospital standardization, as a means to this end, was unoccupied. When the College entered the field at that time, it did so with exceeding care, for it had no precedent to guide it and it had also to provide itself with the necessary personnel, office machinery and financial support to carry the work.

WHAT HAS THE COLLEGE DONE?

At the beginning of the College in 1913 active work in hospital standardization was accepted by the College as the most practical means to advance the art and science of surgery, for if surgery is to be advanced, the conditions surrounding the practice of surgery must be correspondingly improved. The fol-

lowing paragraphs state briefly what has been done toward standardization of hospitals since that date.

In 1914, in connection with the necessary work of perfecting the organization of the College and of obtaining a sound financial basis, the College began to acquire first-hand information about hospital conditions in Canada and the United States. It conferred with doctors, hospital trustees, and hospital superintendents about the work; with medical societies and with hospital organizations, asking their help and co-operation in formulating a plan of action.

In October, 1916, at the annual meeting of the Fellows in Philadelphia, a report of these informal conferences was made. Further, at that meeting the Fellows were asked to create in each province in Canada and in each state in the Union a standards committee, the purpose of the committees being to advise with regard to a sound and constructive program of action. Promptly after that meeting, in accordance with the vote of the Fellows, these standards committees were elected by ballot through the mail.

For reasons of the war, these committees were not called together until October, 1917. At that time they were called into session in Chicago, about three hundred and thirty being present. About fifty leading hospital superintendents were also, on invitation, present at the meeting. For two days these committees with their guests considered three fundamental questions which were: What conditions exist in hospitals? What do we want in hospitals? What is to be done? This meeting clarified many hazy problems. A full report of the meeting (Bulletin Volume III, No. 1) was printed and distributed to the hospitals and to the Fellows. The immediate outcome of the meeting was the appointment of a committee of twenty-one, upon which were represented physicians, surgeons, hospital administrators, laboratory workers, statisticians, etc., the purpose being to outline a questionnaire through which the College might obtain hospital data essential in its further work and to consider a "minimum standard of efficiency."

The committee of twenty-one met for two days in Washington, D. C., in December, 1917, formulated the questionnaire, and discussed, the "minimum standard." Early in 1918 the questionnaire was sent to the hospitals, together with a letter asking the co-operation of the hospitals in the standardization program. The response of the hospitals to this questionnaire exceeded the most optimistic hope of those concerned with the work. Hundreds of letters came from all parts of the continent, pledging co-operation. As a matter of information the questionnaire was sent also to the Fellows. In March, 1918, a complete statement of the hospital standardization program of the College and of the minimum standard was sent to the hospitals and to the Fellows. This statement is Bulletin Volume III, No. 3, now out of print.

The conferences above referred to all emphasized the need of personal investigations of hospitals. In March, 1918, the work of personal investigations of hospitals was taken up. The College employed visitors or inspectors to make reports of conditions at the various hospitals. An important part of the work of the visitors was also to explain the details of the program more fully than can be done by pamphlets or letters, and to make clear the spirit of all of the undertaking.

At this time about 700 hospitals have been visited by staff members of the College. The reports of the visitors, together with the action taken, are recorded upon cards printed for the purpose, and are specific as to the following "minimum standard:"

Staff Organization: Extent of analysis or review of professional work; regularity of meetings; reorganizations contemplated; evidences of staffteam work, group discussion and interest in scientific work, research, education of internes, etc.

Case Records: Data as to medical, surgical and obstetrical case records of all classes of patients treated in the hospital; methods of recording, classifying, filing, etc.; contemplated changes.

Clinical Laboratories: Equipment of the laboratories; number and training of the labor-

atory workers and technicians; extent to which adequate laboratory service is provided; supervision given internes doing laboratory work.

A letter to the superintendent precedes these visits, outlining its object and stating the approximate date of visit. The visitors, of course, seek first of all the assistance of the superintendents in this work. And before each visit ends, the entire standardization program usually finds its way to the local Fellows, internists, staff groups, and members of the board of trustees. The frankness of all concerned with the hospitals in stating their problems and their willingness to consider these problems with the visitors of the College are a constant encouragement.

The following is one of the many reports made for the College by Mr. Frank E. Chapman, this report being an addition to the regular report on the minimum standard:

The X-ray equipment is very complete with an exceptionally bright and intelligent technician on duty at all times. Volume of work is not large but the character is very good. Do not believe it is being used as much as it should be. The hospital has a technician in charge of the laboratory. Not equipped to do Wassermanns; from the conversation I had with the technician, I do not think she is equipped to do laboratory work of any kind. There is no such thing as routine laboratory work. Very little pathology is done and that only when special charges are made.

The deplorable thing about the hospital is the general atmosphere of the place. It is a business proposition from start to finish. Pupil nurses are permitted to do special duty work even in the first year of their training for which the hospital charges and collects the fee. This institution is operated in conjunction with two other hospitals of the state, all of which are on a par.

Again, the following, somewhat condensed, is one of the reports made by Miss Anna C. Phillips:

Capacity: 150 beds. Private charitable institution.

Type: Medical, surgical, obstetrical. Num-

ber internes, three. Number pupil nurses, seventy-two.

Staff Organization: A loosely organized group. Regular meetings not held. Any physician in good standing may bring patients to wards or rooms. No regulations.

Laboratories: Well equipped, clean, light, laboratories in charge of part-time, trained workers. Pathological laboratory under-staffed and internes do laboratory work without supervision. No laboratory records kept which would indicate volume of work.

Supplementary Report: Hospital located in quiet residential section; car line near. New fire-proof building surrounding three sides of large open court gay with flowers, shrubs, etc. The low broad lines, balconies facing the court, and the general impression of brightness and comfort, reflect definite planning and thought. Atmosphere dignified and prosperous. A sense of confusion in the wards is probably due to the numbers of doctors attending and the varieties of treatments ordered for the same types of cases. Staff has been dissatisfied with existing organization, but has found difficulty in inducing the trustees to assume responsibility regarding establishment of definite rules and regulations. The teaching in the local medical school is not strengthened by the standards existing in this hospital. Duplicate report left with chief of staff for presentation to Board.

During the current year a full report of the results of these visits will be made by the College and classifications of the hospitals of one hundred beds or over will be published in accordance with the findings of the visitors. As stated in Bulletin Volume III, No. 3, the College will not include any hospital upon an accredited list which permits the practice of the division of fees to exist among the physicians and surgeons caring for patients in the hospital. For the convenience of governing boards of hospitals in expressing their policy in this matter, the following resolution is suggested:

Whereas, the practice known as the division of fees is unworthy and destructive to the best interest of patients and, whereas, the medical profession is unqualifiedly opposed to this practice in any guise whatever, therefore,

Be It Resolved that no physician or surgeon who engages in the division of fees may hold the privileges of practice in hospital, and further,

Be It Resolved that a copy of this resolution be sent to each physician and surgeon who now avails himself of the privileges of practice in hospital, and that further practice in the said hospital on the part of these physicians and surgeons be interpreted as acceptance in good faith of the foregoing resolutions.

In January, 1919, the College published a bulletin, Volume IV, No. 1, entitled, "Case Records and Their Use." This bulletin reviews the program of hospital standardization and explains in much detail what adequate case records are and what their value is in hospital service. Forty thousand copies of this bulletin have been distributed to doctors, hospital trustees, hospital superintendents, etc.

In January, 1919, the College published also a bulletin, Volume IV, No. 2, in which an actual set of case record forms was suggested. The purpose was "to prepare record forms which are simple, convenient, and adequate to meet the needs of record keeping in cases usually found in general hospitals." Forty thousand copies of this bulletin were distributed.

In the matter of keeping adequate case records among hospitals, the requirements for admission to Fellowship in the College have proved of practical help. Candidates for admission to Fellowship are requested to submit to the College one hundred case records, fifty in abstract and fifty in complete detail. These records, if they are to be approved by the College, must indicate intelligent and thorough study and treatment of the cases concerned. A hospital in which a candidate for Fellowship prepares these records, if not already keeping adequate records, is usually induced to do so.

Early in 1918, as soon as the program of the College was made clear, requests came from hospitals and doctors that the public be informed of the work. Much effort has been made to meet this demand. In more than forty cities hospital standardization conferences have been held during the past year. In the way the pro-

gram of the College has been carried not only to the medical profession and to hospitals, but also to business men's associations, chambers of commerce, women's clubs, etc. The following program held in April, 1919, in Portland, Oregon, is typical:

PROGRAM

Luncheon, Chamber of Commerce, 12:15 p. m.

Mr. A. L. Mills, Presiding.

Fifteen Minute Talk . . . Dr. John G. Bowman

Fifteen Minute Talk Charles B. Moulinier, S. J.

AFTERNOON SESSION, 2:00 O'CLOCK.

Lincoln High School

The Occasion for the Conference,

Dr. Kenneth A. J. Mackenzie,

Chairman, State Committee on Standards

What is Hospital Standardization? (Clinical Laboratories, Case Records, Staff Organization.)

Dr. John G. Bowman,

Director of College

Discussion:

(a) Clinical Laboratories Dr. A. E. Mackay

Major R. L. Benson

(b) Case Records

Major R. C. Matson

Major Wm. S. Knox

(c) Staff Organization Dr. S. E. Josephi

Dr. E. F. Tucker

Summary Charles B. Moulinier, S. J.

President, Catholic Hospital Association

Following such meetings many hospitals take immediate action to meet the minimum standard of the College. Sometimes a special meeting of the local county or city medical society is called with the object of bringing about hospital standardization for all of the hospitals in the vicinity at the same time. An outgrowth of a number of such meetings has been the organization of a central clinical laboratory to serve all of the hospitals.

The co-operation of the Catholic Hospital Association with the College is encouraging. The Association officially endorsed the program of the College as its own program, and through the leadership of Charles B. Moulinier, S. J., President of the Association, working as a representative of the College, the Catholic hospitals are revolutionizing the character of their service to their patients.

This comprehensive survey, undertaken by the College of Surgeons, has required for its successful execution the expenditure of a considerable sum of money, an average of more than fifteen thousand dollars a year, and as the work develops the expenditures will increase. More than thirty thousand dollars will be required for this work during the current year. The Fellows of the College have provided liberally for this and similar work by their dues and by the interest on the endowment of five hundred thousand dollars subscribed by the Fellows. A sum of thirty thousand dollars was also contributed to this special work by the Carnegie Corporation.

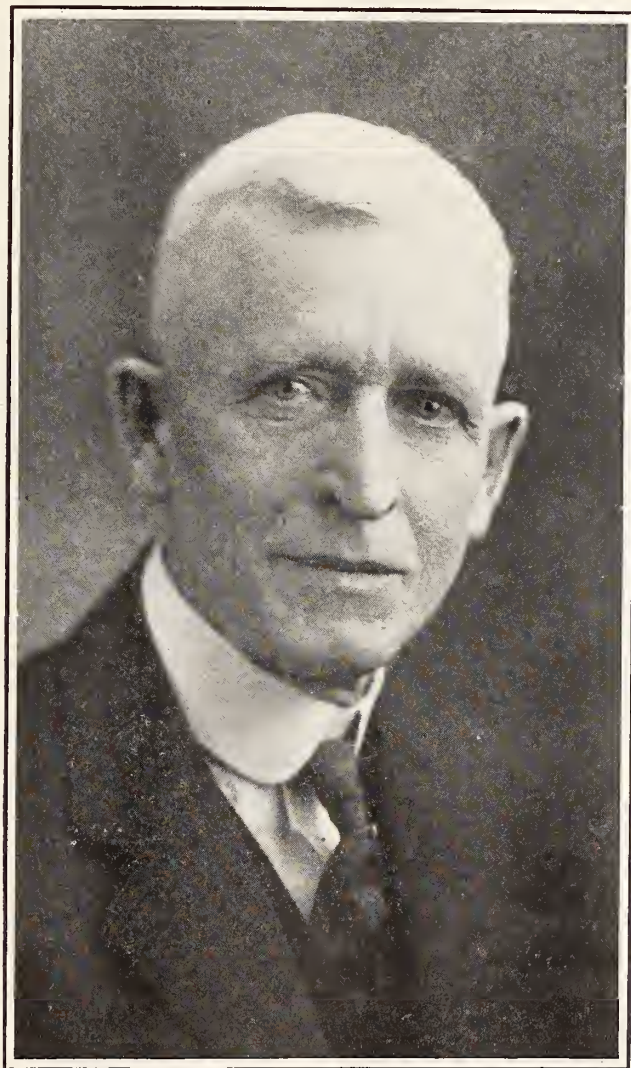
The rank and file of the Fellows of the College and its Board of Regents are keenly alive to the responsibility that they have assumed in undertaking this work, work that has been so carefully planned and is assuming such important proportions in personal service and financial outlay. The College can be depended upon to co-operate with all interested in the subject and to continue the direction of the project.

From beginning to end hospital standardization is the making of a reality out of an ideal. It is a high-spirited, clear-headed, dead-in-earnest effort on the part of all directly concerned with hospitals to call themselves to their own best senses. The inspiring fact about it today is that nearly all hospitals on the continent are gladly a part of the effort, lowering to their own surprise the mortality of their own good intentions.

PRESIDENT BAKER.

In the election at our 54th Annual Meeting of Dr. Charles H. Baker of Bay City to the presidency of our State Society to which office he is most assuredly deserving, we feel that the interests of this Society will be materially promoted.

Dr. Baker was born at Hillsdale, Mich., December 18, 1859, where he lived until 1873 when he moved to Detroit. In 1877 he entered Hillsdale College where he received the degrees of Bachelor and Master of Philosophy. This was followed by a course in medicine at Ann



PRESIDENT CHARLES H. BAKER
Bay City

Arbor where he received his M.D. degree, and later did graduate work in New York, Philadelphia, London, and Berlin.

Dr. Baker has practiced medicine and surgery in Bay City since 1883, but during the last twenty years has confined his practice to diseases of the eye, ear, nose, and throat. During the war period he served as a member of the medical advisory Board No. 4 in the capacity of ophthalmologist.

At our State Society meetings he has read papers before the sections on medicine, surgery, and ophthalmology, and has also read papers before the American Medical Association and the Academy of Ophthalmology and Oto-Laryngology. Dr. Baker has long been a faithful member of our Society, and is also a member of the American Medical Association, and the Academy of Ophthalmology and Oto-Laryngology.

As a Councilor of the tenth district, which office he held for two terms, Dr. Baker has done able and efficient work.

As our President we pledge him our loyal support and assistance in furthering the interests and activities of our organization.

Editorial Comments

The Physicians' and Surgeons' Adjusting Association, of Kansas City, wishes to call the attention of physicians in this field to the fact that they do collect old accounts. This Journal has accepted their advertisement, which will be found on another page of this issue, and any business transacted with this company will no doubt be entirely satisfactory to those who have dealings with them.

At a regular session of the United States Federal Trade Commission held in Washington, D. C., March 10, 1919, the complaint against the Victor Electric Corporation was ordered dismissed and discontinued. We congratulate the officers and members of the Victor organization on this vindication.

The personnel of the Victor organization is

largely made up of pioneer workers in the X-ray and physical therapy field and we have always believed that these men, (who are directing the policies of the Victor Electric Corporation), have been actuated by a desire to elevate rather than to lower the standard of business ethics in their field.

The Victor Corporation is to be congratulated upon having had this opportunity of having the Government searchlight turned upon its activities, and the clean bill of health which the Corporation has received should be an inspiration to its officers to continue to be guided by those ideals which should be kept in constant view by all who are engaged in an industry so closely allied to medical science.

Correspondence

Caseville, Mich., April 13, 1919.

Dr. D. Emmett Welsh,
Grand Rapids, Mich.

Dear Sir:

This Village is without a Doctor and we wrote the State Board of Health asking them to put us in touch with a Doctor. They refer us to you saying that you might be able to help us.

If you are in position to get in touch with a Doctor desiring to locate in a small town with good farming country we should be pleased to hear from you.

Yours very truly,
SAM H. COCHRAN,
Village President.

New York, May 12th, 1919.

Dr. F. C. Warnshuis,
Secretary, Michigan State Medical Society,
My Dear Doctor:

The House of Delegates of the Medical Society of the State of New York adopted the following resolution at its Annual Meeting at Syracuse on May 6th, 1919:

"Resolved, That the delegates from this Society to the House of Delegates of the American Medical Association be and are hereby instructed to introduce a resolution, against compulsory health insurance, in the House of Delegates of the American Medical Association and to support it in every way possible."

Do you think it advisable to have your Society

adopt some similar resolution in order that the House of Delegates of the American Medical Association may not side-step this most important matter as they did last year?

Very sincerely yours,

EDEN V. DELPHEY, M.D.

Deaths

Major V. C. Vaughan, Jr., M. C. of Detroit was accidentally drowned the early part of June in France. Major Vaughan was the eldest son of Colonel V. C. Vaughan of Ann Arbor. He early volunteered for service in the Medical Department of the Army. He served for nearly two years in France and expected to sail for this country in the near future.

Major Vaughan was an expert in tuberculosis and for many years had charge of the tubercular division of the Detroit Board of Health. We have lost an unusually able physician and a good citizen and his friends a charming comrade.

Dr. P. S. Root, for many years a member of the State Society, died at his home in Monroe, Mich., June 6th. Death was due to a stroke of apoplexy.

Dr. Root, who was 63 years of age, was born at Vernon, N. Y., April 26, 1856. He was a graduate of the University of Michigan of the class of 1881 since which time he has been located at Monroe, Mich.

Dr. Root is survived by the widow and one daughter.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

THE STUDENTS' LIBRARY ASSOCIATION of the Middlesex College of Medicine and Surgery solicits donations of Medical and Scientific libraries, Medical books, bound and unbound volumes of back numbers of Medical and Scientific Magazines, and funds for current American and foreign Medical

Journals. Jennie Hraba, Class '21, Association Secretary University of Massachusetts School for Medicine, East Cambridge, Mass.

FOR SALE.

\$8,000.00 practice in live town of 650 in farming and dairying community. Nearest competition 9½ miles. Collections at least 99 per cent. Fine class of people; 12 grade school. Town located on State highway within 30 miles of Grand Rapids Will sell for invoice of home, office fixtures, drugs, auto, etc., in all about \$3,500.00. Only small payment required. Best of reason for selling. Will introduce. No better small town proposition in Western Michigan for competent man who is not afraid of work. Address Add X, c/o Michigan State Journal.

The Uhlemann Optical Company of Chicago have opened a branch office in Detroit at State and Griswold streets in the Smith Building. Mr. A. A. Walstrom, advertising manager for the Uhlemann Optical Company will be in charge of the Detroit office.

The Detroit Medical Club held its annual meeting April 17th, at the residence of Dr. James Cleland. The program consisted of short addresses relating personal experiences in the Army Medical Service by the following returned members: Majors Frank B. Walker, George McKean, W. D. Ford, L. J. Hirschman, Captain C. E. Simpson and Lieutenant D. M. Griswold. Following the program a delightful lunch was served by the host. Besides those mentioned above the following members are or have been in Army Service; Lieut.-Colonels T. A. McGraw, H. R. Carstens, Major Robert Beattie, Captains H. W. Plaggemeyer, F. T. F. Stephenson, W. H. Morley and Lieutenant P. F. Morse. Out of a membership of thirty, thirteen (nearly 50 per cent.) have been in the Army.

The officers elected for the following year are:

President—Dr. James Cleland, Jr.

Vice President—Dr. J. H. Dempster.

Secretary-Treasurer—Dr. D. M. Griswold.

One-tenth of the graves in America's greatest cemetery in France, near Romagne, in the heart of the Meuse-Argonne battlefield, are now filled. An American Memorial League, whereby it is planned to have a French woman take care of some particular American soldier's grave in France, has been formed. The objects of the League are: To care for the graves of American soldiers who died in France whether in action or in hospital; to select May 30th, as an annual Memorial Day on

which the graves shall be decorated, with appropriate services; and to get in touch with the parents of the soldiers and to inform them of the care being taken of the grave and to furnish photographs on request.

The Detroit Academy of Medicine met May 27th, at the office of Dr. H. M. Rich. Captain Homer E. Safford gave an interesting talk on "His Personal Experiences in the Army." Following the paper Dr. Rich served the Fellows of the Academy with light refreshments.

During the past year Lieut.-Colonel P. M. Hickey, Lieut.-Colonel J. W. Vaughan, Major L. J. Hirschman and Major Ray Connor talked on the army medical life viewed from their individual standpoints.

The next annual meeting of the Academy will be held October 14, 1919, when it will celebrate its fifty years of continuous existence.

The first thousand volunteers raised in the U. S. for the Army of Occupation landed in Brest, May 15th. Among them were many silver strippers as well as men for whom a trip across the seas was not a novelty. Many former members of the A. E. F. were among the incoming Yanks.

Other units of 1,000 men each will arrive in France closely following the first group. Recruiting of volunteers to relieve those men of the Army of Occupation entitled to earliest discharge because of distress in their families and other reasons, has resulted in the enlistment of approximately 20,000 men.

Doctor Guy L. Kiefer, of Detroit, attended the Conference of State and Territorial Boards of Health held with the Surgeon General's office at Washington, D. C. Doctor Kiefer also attended the meeting of the Association of State and Territorial Boards of Health at Atlantic City last month.

Ashley, Bannister, and Eureka, three small towns closely connected, we are informed are in need of a physician. Bannister and Ashley are on the Ann Arbor Railroad. Any doctor locating here will find plenty to do. Further information may be had by communicating with this office.

F. M. Bell, head of Armour and Company's Pharmaceutical Department sailed recently for Europe where he will study business conditions and get an inside viewpoint of the general pharmaceutical activities in foreign countries. Mr. Bell's visit which will last approximately two months will include trips through England, France and Italy.

Armour and Company's line of pharmaceutical

goods which is well known in medical circles has been under the direction of Mr. Bell for many years.

Dunbar Memorial Hospital, 212 Frederick Street, the first public hospital in Detroit for Negroes, was opened May 30th, with dedication ceremonies. The speakers for the occasion included a number of clergymen. At present there is only accommodation for thirty patients. It is hoped that soon the building will be enlarged. The staff consists of seventeen physicians. Eighteen Negro citizens of Detroit subscribed nearly all of the \$6,000 which was raised.

A Committee of the National Board of Medical Examiners has been appointed to visit England, France and Italy. This Committee is composed of Drs. L. A. LaGarde, V. C. Vaughan and W. L. Bierring. The purpose of this mission is to confer with examining boards and to obtain recognition of American Medicine on the basis of the Medical Board's Certificate of examination.

The Michigan State Board of Registration in Medicine held its regular meeting in Ann Arbor, June 10 and 11, 1919. The Secretary, Dr. Harrison, and the following members, Drs. Le Fevre, Nyland, Hume, Shipp, McLaughlin, Cameron and G. L. Connor, were present. At this time the June examinations were held.

Mrs. Guy L. Kiefer, of Detroit, attended the meeting of the National Committee to secure Military rank for nurses held in Washington, D. C. last month. Mrs. Kiefer represented the State Committee for Michigan of which Mrs. Albert E. Sleeper is Chairman and Mrs. Russell A. Alger, Jr., is vice-Chairman.

The venereal rate is so low in the Army of Occupation that it can not be computed on a basis of so many men per thousand—the fraction would be too small—so it is computed on a yearly basis. The rate April 27 was twenty-two cases per thousand in the course of a year. The S. O. S. has an equally low venereal record.

A gift of a nurses' home by Mayor James Couzens of Detroit was announced June 1st. The building will be on the east side of John R Street, just south of Harper Hospital. It will cost \$300,000.

There will be accommodations for 225 nurses. The building will be six stories high and will have every appliance for the care, education and entertainment of nurses.

Dr. Homer E. Safford, of Detroit, read a paper on his personal experiences in the U. S. Army with special reference to psychiatry before the Detroit Academy of Medicine on May 27, 1919.

The last meeting of the Detroit Medical Club was held June 2nd. Dr. James E. Davis gave a lantern slide talk on "The Pathology of the Thyroid Gland."

Doctor Edwin L. Robinson, of Detroit, is now located at 435 Woodward Ave., Suite 312, McKerchey Bldg. Doctor Robinson formerly had offices at 42 Sproat St.

Drs. D. Emmett Welsh, Grand Rapids; A. W. Hornbogen, Marquette; J. Brook, Grandville, and W. J. Wilson, Detroit, are attending the American Medical Association meeting as our State Delegates.

Major F. C. Warnshuis, our Secretary-Editor, arrived in New York from France June 18th, and we expect and hope he will be home in time to get out the August number of the *Journal*.

Captain E. B. Stebbins, of Ironwood, has been promoted to rank of Major. Major Stebbins is still in France with Base Hospital No. 101.

The next semi-annual meeting of the Tri-State Medical Society, composed of physicians and surgeons of Michigan, Ohio, and Indiana, will be held in Kalamazoo, the fore part of October, 1919.

Major R. G. Owen of Detroit has returned from Service overseas and has resumed his position as Laboratory Director of the Detroit Clinical Laboratory.

Dr. Herbert S. Karr, of Detroit, is now located at 435 Woodward Avenue, Suite 310-14 McKerchey Building.

Dr. Hedley Williamson, of Detroit, was recently operated for appendicitis. The Doctor is making a nice recovery.

Dr. David Littlejohn, formerly of Bridgman, Mich., is now located at 312 State St., St. Joseph, Mich.

Dr. John H. Charters of Grand Rapids is now located at 1500 Chene St., Detroit.

Dr. and Mrs. Guy L. Kiefer, of Detroit, opened their summer cottage at Mackinaw, July 1, 1919.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

BENZIE COUNTY.

The Benzie County Medical Society met at hotel Yeazel, Frankfort, May 19th, and elected officers for the ensuing year as follows:

President—W. J. Shilliday of Lake Ann.

Vice President—J. M. Stone, of Honor.

Secretary-Treasurer—E. J. C. Ellis, of Benzonia.

Delegate to the State Society—C. P. Doyle, of Frankfort.

Alternate to the State Society—F. H. Stone, of Beulah.

The next meeting will be at the home of J. M. Stone in Honor.

E. J. C. ELLIS, Secretary.

On June 11 the Benzie County Medical Society met with Dr. J. M. Stone of Honor and were served with a very fine dinner in the evening.

At this meeting Dr. M. F. Stever of Thompsonville was elected to membership, this only leaves

one Doctor in the County outside of the Society and we do not intend to allow this county to be less than 100 per cent. very long.

The next meeting will be at Benzonia July 9th, and some outside talent will be invited to entertain us.

E. J. C. ELLIS, Secretary.

GRAND TRAVERSE-LEELANAU COUNTY

"The regular monthly meeting was held on June 3, 1919, in Traverse City at Dr. E. L. Thirlby's office. An interesting paper was presented by Dr. Paul H. Piper of Traverse City, on "Focal Infection."

H. V. HENDRICKS, Secretary.

LENAAWEE COUNTY

The Lenawee County Medical Society held its regular monthly meeting June 10, 1919, at the New

Adrian Hotel, Adrian, Mich., Vice-President R. M. Eccles, of Blissfield, presiding.

The minutes of the previous meeting were read and approved.

Dr. Guy M. Claffin, of Deerfield, addressed the Society on "The Control of Communicable Diseases in the Army" and expressed the hope that the time would soon come when the civilian population of the country would be protected by the public health authorities of the Federal government, following out much the same system as that employed in the Army.

Capt. A. W. Chase, of Fort Hancock, N. J., was present and addressed the Society. He gave an interesting account of some of his experiences and told of many wonderful deeds performed by surgeons in the Army Medical Corps.

Upon motion, the rules were suspended, and Dr. H. H. Hammel, of Tecumseh, was elected to membership by acclamation, the Board of Directors having reported favorably upon his application.

Upon motion, Drs. W. E. Jewett, Sr., A. M. Allen, and Daniel Todd, of Adrian, and Dr. L. G. North, of Tecumseh, were made Honorary Members of the Lenawee County Medical Society.

After some discussion, a motion was made by E. T. Morden and was afterward carried, that a special meeting be called for June 24, 1919, to take the place of the July meeting, that the meeting be for the purpose of revising the county free-schedule, and that a committee, composed of Drs. G. M. Claffin, of Deerfield; C. H. Westgate, of Weston; A. L. Spalding, of Hudson; J. W. Beardsley, of Tecumseh, and O. Whitney, of Adrian, be appointed to draft a new fee-schedule to present at the special meeting.

There being no further business, the Society adjourned.

E. T. MORDEN, Secretary.

MASON COUNTY.

At a meeting of the Mason County Medical Society held June 3, 1919, Dr. Louis Pelletier of Ludington was elected President of the Society. Dr. I. L. Hunt, of Scottville is Vice President. Dr. C. M. Spencer, Ludington is Secretary and Treasurer.

Miscellany

Helpful Hints for Busy Doctors.—A comparatively recent issue of the International Journal of Surgery has an editorial on "The Questionable Etiology of the Present Epidemic," signed "G. H. Sherman, M.D.," It was to the effect that one

can best immunize against influenza by using "a combined vaccine containing the influenza bacillus, pneumococci, streptococci, the Micrococcus catarrhalis and staphylococci." In the advertising pages of the same issue was an advertisement of "Influenza Vaccine No. 38," which "Will abort Colds, Grippe, Influenza and Pneumonia," and which was made by "G. H. Sherman, M.D." The vaccine contained the various bacilli and cocci mentioned in the G. H. Sherman editorial. One wonders if in succeeding issues of the International Journal of Surgery one may look for editorials by the proprietors of Bellans, Phenalgin and other products advertised in the publication. (*Jour. A.M.A.*, May 10, 1919, p. 1372).

Administration of Arsphenamine.—The U. S. Public Health Service has issued a circular concerning the dilution and the rate of administration of arsphenamine solutions. A study as to the cause of the disagreeable results following the use of the various preparations of arsphenamine has indicated that most disagreeable results are not inherent in the preparations but are produced through faulty steps in the administration of the remedy, chiefly from the use of a too concentrated solution and by too rapid administration. (*Jour. A.M.A.*, May 10, 1919, p. 1372).

Lane's Asthma Cure.—The A.M.A. Chemical Laboratory reports that Lane's Treatment, double strength, for Hayfever and Asthma (formerly called Lane's Asthma Cure) was found to be essentially a solution of calcium iodid, alcohol and water, with vegetable extractives and sugar. It contained 3.96 Gm. of anhydrous calcium iodid, or about 2.5 grains per dose. Iodids have been used for years in the treatment of certain forms of asthma. Under careful supervision the use of iodids in selected cases of asthma may give decidedly satisfactory results. Self dosing with iodids, however, is by no means free from danger. (*Jour. A.M.A.*, May 10, 1919, p. 1386).

Tyree's Antiseptic Powder.—An advertising leaflet for Tyree's Antiseptic Powder recently received by a physician is devoted largely to a report of a bacteriologic examination of the Tyree's preparation. The physicians who receive this advertising material might easily overlook the fact that the reported bacteriologic tests were made in 1889 and that the investigation of the Council on Pharmacy and Chemistry in 1906 brought out that the examination applied to a product differing radically in composition from that of the preparation now marketed. The Council found that although the Tyree

preparation was advertised as a mixture of borax and alum, it was essentially a mixture of zinc sulphate and boric acid. Here then we have a manufacturer publishing in 1919, in behalf of a certain product, tests that were made in 1889 with a product of different composition although of the same name. (*Jour. A.M.A.*, May 17, 1919, p. 1482).

Peptenzyme.—Peptenzyme was reported on by the Council on Pharmacy and Chemistry along with a number of other products of Reed and Carnrick in 1907. The report "Reed and Carnrick's Methods" announced that none of the products examined were eligible for New and Nonofficial Remedies. The following is an abstract of the report on Peptenzyme: Peptenzyme elixir and powder are said to contain "the enzymes and ferments of all the glands which bear any relation to digestion;" therefore, the peptic glands, pancreas, salivary glands, spleen and intestinal glands. The preparations are said to be "not chemical extracts, but pure physiologic products." Apparently Peptenzyme powder consists of the glands, dried and powdered, while the elixir is an extract. It is stated that these preparations digest proteids, starch and fat, and in addition stimulate and nourish the digestive glands, and that the ferments in these preparations do not interfere with or digest one another. Examination by the Council showed that these preparations were practically devoid of any power to digest proteids or fat when tested by the U. S. P. method. The claim that the product contained ferments which would not show this activity in the test tube, but become active in the alimentary canal, is contrary to known facts and could not be substantiated by the manufacturer. The claims made for Peptenzyme powder and elixir were held to be unwarranted. (*Jour. A.M.A.*, May 17, 1919, p. 1484).

Kline's Nerve Remedy.—This epilepsy nostrum was analyzed by the A.M.A. Chemical Laboratory and found to be a bromid preparation and practically identical with Waterman's Tonic restorative.

Chase's Rheumatic Specific.—The A.M.A. Chemical Laboratory found this to have essentially the following composition: sodium salicylate 22.4 per cent., magnesium oxid 5.3 per cent., licorice root 72.3 per cent.

Diabetol.—In 1910 Professor Millspaugh at the Field Museum, Chicago, found this herb to be from a shrub—*Stenolobium stans* (L)—growing in Arizona, Mexico and Central America.

Varnesis.—Some time ago, the State chemists of

Connecticut found this to contain 18 per cent. alcohol and less than 1 per cent. vegetable extractives derived from laxative drugs and capsicum. Later the alcohol percentage was reduced to 15.

Viavi.—Viavi Capsules were analyzed for the California State Medical Journal and reported to contain nothing but extract of hydrastis and cocoa butter.

Nuxated Iron.—The analysis in the A.M.A. Chemical Laboratory indicated that Nuxated Iron Tablets contained only 1-25 grain of iron, while the amount of nux vomica was practically negligible. Nuxated Iron has been advertised by an extensive campaign of misrepresentation and exaggeration. (*Jour. A.M.A.*, May 24, 1919, p. 1560).

Sanosin.—Sanosin (first introduced as Sartolin) consists of a mixture of powdered eucalyptus leaves, flowers of sulphur, powdered wood charcoal, and oil of eucalyptus. The instructions to the consumptive are that this mixture should be placed on a slab under which an alcohol lamp is burning. The whole thing is to be operated in a room which is tightly closed and in which the consumptive is supposed to stay. (*Jour. A.M.A.*, May 24, 1919, p. 1561).

The Williams Treatment.—According to the Dr. D. A. Williams Company, which sells it on the mail order plan, the Williams Treatment "conquers kidney and bladder diseases, rheumatism and all other ailments when due to excessive uric acid." The Williams Treatment was analyzed in the A.M.A. Chemical Laboratory and from the results of the examination it was concluded that it is essentially a mixture containing in 100 Cc. 48 Gm. potassium acetate in solution and about 7 Gm. potassium bicarbonate, the latter being largely undissolved. The mixture is colored with caramel and flavored with oil of wintergreen or methyl salicylate. (*Jour. A.M.A.*, May 31, 1919, p. 1632).

Town's Epilepsy Treatment.—This is a bromide epilepsy preparation and was analyzed by the A.M.A. Chemical Laboratory. (*Jour. A.M.A.*, May 24, 1919, p. 1561).

Investigation Based on False Premises.—One sometimes reads in supposedly "Original Articles" in medical journals statements that seem puzzlingly familiar. If one is sufficiently inquisitive and possessed of a germ of Sherlock Holmesism, the familiar statement may be traced to the "litera-

ture" for some proprietary medicine with which the author's article deals. The unwisdom of authors accepting the unconfirmed statements of the promoters of proprietary remedies is well illustrated in a recent report of the Council on Pharmacy and Chemistry on "Collosol Cocaine," a preparation claimed to contain 1 per cent. of cocain in colloidal and relatively nontoxic form. The report brings out that men of good standing had reported "Collosol Cocaine" to be much less toxic than cocain. These men, however, did not verify the statement of its composition, and subsequent investigation by others brought out the fact that "Collosol Cocaine 1 per cent." contained but 0.26 per cent. cocain, and that its toxicity was in accord with the amount of cocain found. Those who investigate the action of drugs must recognize more fully than has often been done in the past, that a study of a medicament is of no scientific value whenever the identity of the substance is not established. (*Jour. Ind. State Med. Assn.*, May, 1919, p. 134).

Therapeutic Evidence.—Has the medical profession learned to distinguish between real therapeutic evidence and chance observation? If so, the profession will not be impressed by certain testimonials for a widely advertised ointment. The wise physician who reads the testimonials will ask: Was it the "baking" or the proprietary ointment which produced the "remarkable results" in "rheumatic affections and ankylosis?" Was the "contracted arm chronic" benefited by time and friction or by the proprietary? How did the physician know that "anointing the nostrils" prevents attacks of influenza? Those who are inclined to give credit to drugs for naturally occurring events may be interested in the statement of a prominent chemist that he has been free from his periodical colds since he arranged for an inoculation with a "cold" vaccine but was prevented from keeping the appointment. (*Penn. Med. Jour.*, May, 1919, p. 524).

After being closed for two years due to government restrictions prohibiting visitors from the stockyards because of the war, Armour and Company's huge plant in the Chicago stockyards is again open to visitors, an announcement from the company states.

This announcement will prove of interest to not only people who intend to visit Chicago some time this summer but to many others as well because, the announcement says, "preparations are being made by Armour and Company to open their other plants in various parts of the country so that a trip through a packing plant which is an educational

one, will not just be limited to Chicagoans or visitors to Chicago, but to people in fifteen different parts of the United States, where Armour and Company have packing plants. Uniformed guides are in attendance to explain the various interesting things to be seen."

Phosphorus Metabolism.—The more recent investigations on digestion and absorption all point to the probability that phosphorus from the digestive tract reaches the general circulation only in the form of inorganic phosphates and that all organic phosphorus compounds are synthesized in the body cells. This is in support of the conclusion of the Council on Pharmacy and Chemistry in forming an estimate of the therapeutic potency ascribed to preparations of organically bound phosphorus, such as lecithin, glycerophosphates, phytin, macleic acid and phospho-proteins. All the newer researches give no indication that the body is dependent on a ready made supply of phosphatid (phosphorized fat) in the diet to maintain normal nutrition. (*Jour. A.M.A.*, May 3, 1919, p. 1294).

Two Misbranded Nostrums.—Bull's Herbs and Iron Compound was a weak alcoholic solution containing iron, phosphates, sugar and vegetable derivatives, among which were quinine, red pepper, gentian and podophyllum. It was falsely and fraudulently represented as a remedy for weak nerves, ailments peculiar to women, scrofula, rickets, liver, kidney and bladder diseases, etc. Effervescente Granulare consisted of over 13 per cent. sodium bicarbonate, 61 per cent. of sugar, 3 per cent. of borax, and 17 per cent. potassium bitartrate. Though invoiced as "Eff. Magnesia" it contained no magnesia. Both were declared misbranded. (*Jour. A.M.A.*, May 3, 1919, p. 1316).

Collosol Manganese.—Stephens, Yorke, Blacklock, Macfie, Cooper and Carter report in the *Annals of Tropical Medicine and Parasitology* the results of their investion for the English government of Collosol Manganese conclude that Collosol Manganese in the doses used is of no value in the treatment of simple tertian malaria. (*Jour. A.M.A.*, May 3, 1919, p. 1318).

During May the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies: Abbott Laboratories: Liquor Hypophysis, U. S. P. Abbott. Procaine Hypodermic Tablets, $\frac{3}{4}$ grain. Procaine-Adrenalin Hypodermic Tablets, Abbott. Gilliland Laboratories: Antimeningococcic Serum (Combined Type) (Gilliland). Diphtheria Antitoxin, Concentrated and Refined. Tetanus Antitoxin, Concentrated and Refined. Antipneumococcus Serum Type I Small Pox Vaccine Original Tuberculin "O T"

E. R. Squibb and Sons: Protargentum-Squibb.

The Journal

OF THE

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ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XVIII

GRAND RAPIDS, MICHIGAN, AUGUST, 1919

No. 8

Original Articles

PRESIDENT'S ADDRESS.

FIFTY-FOURTH ANNUAL MEETING MICHIGAN STATE MEDICAL SOCIETY HELD IN DETROIT.

ARTHUR M. HUME, M.D.
OWOSSO, MICH.

Members of the Michigan State Medical Society:

Contrary to custom your president will not at this time address you upon any scientific or technical subject. He will not, in fact, address you at all except as he talks to and reasons with you on matters of great importance to us all individually and collectively. He craves your attention with every mind freed from prejudice, jealousy or thought of personal aggrandizement or gain. He asks that you give these matters fair, broad minded, thoughtful consideration followed by decisive action, for upon what *you* think and what *you* do in this crisis depends the weal or woe of the medical profession in Michigan and of you individually as members of that profession.

Technically speaking the horrible world war is probably over, but the whole world and everything therein contained is upside down and everything in confusion. Adjustments will come but most of them will come slowly and conditions, economic, social and even financial will be changed. We shall never readjust to conform to the old order but there will ultimately be worked out a new economic and sociologic life and we must live that life or cease to live at all.

What is the great lesson the war has taught us? That society can only survive through organization—and organization means unity of moral and physical forces—and that those forces must be composed of and directed by human and humane intelligence. It was unity of purpose and action that won the war. It will

require more of unity of purpose and action to readjust and rehabilitate the world and to make it a better world or even one worth living in and for. Individual effort exercised independently and alone will count for but little in profit either to the individual or to the public. The doctors and the lawyers are destined to become collectively a part of the great economic structure of Government as are artisans and industrial workers, but individuality will be lost and they will exist only collectively or as distinct organizations. This is the new order of things—to this order we must adjust ourselves, and he who does not will not materially obstruct the onward march but instead will be trodden under the feet of the advancing army.

Now, what about the Michigan State Medical Society, what it has done, what it has not done and what it has yet to do. We may well be proud of the response of the Doctors of Michigan to the call of our Country. All over the State the best and brainiest men of our profession and of our Society, volunteered for service and Michigan's quota of doctors was always there. Many of them left homes and families that needed their presence but sacrifice was the watch-word and they gave to the limit of themselves and of all that was near and dear to them. A few—and thank God it was only a few—made the supreme sacrifice. Many of those who responded to duty's call have returned and are with us here and many are yet to return. To such we extend not a formal welcome but a warm handclasp with a heartfelt and hearty greeting "God bless you." "Fine work old boy." "Put her there."

The Council of our Society at the Battle Creek meeting more than two years ago undertook to care for the home interests of our men in U. S. service. This was largely a failure, not so much, I believe, from lack of willingness to respond on the part of the members at home, but because the methods were not practical. No annual meeting of the Society was held, and our disorganization commenced, and both sentiment and interest became dormant in

our county societies. As more of the active men in the county societies entered the army service, (and the most active men in organizational work and best Doctors in the community were usually the ones who volunteered for service) the county societies were more and more affected. And today, instead of many live units—the county societies—of which we were composed three years ago our Society has become in its integral parts largely moribund, or at least enjoying “twilight sleep.” I feel confident that I would be at this time presenting to you post mortem findings or at least an obituary committee report of the M.S.M.S. had not a kind providence spared to us all a Moses who, while not possessing supernatural powers and therefore unable to lead us out of the wilderness, has by working almost day and night succeeded in keeping the remnants of the flock together. Last July our able, experienced and energetic Secretary-Editor, Dr. F. C. Warnshuis responded to the call of duty and entered the service. Your President, Chairman of the Council and Chairman of the Publication Committee having had years of experience in medical practice and therefore knowing all about how to run our *Society Journal* undertook to run it. Our strenuous—yea even violent efforts collectively assumed about the ordinary effective activities of the editorial office cat. Our journal would have fallen with the autumn leaves had not Moses appeared, he who for sheer love of the profession and loyalty to the interests of your Society and mine, and without one cent of compensation from any source, has managed well the affairs of the Secretary's office, has kept our journal in the high class of medical journalism of the United States to which it had attained, and has performed the immense amount of tireless labor necessary to the production of our wonderful Victory Number. The man to whom we owe most for the existence of our organization at this time is our Treasurer, Secretary-Editor pro tem, “our Moses,” Dr. D. Emmett Welsh of Grand Rapids.

Now what of the future? United we shall stand, divided we shall fall. Co-operation between men can only come by setting aside one's selfishness and the desire for the attainment of selfish ends, and that is to be the new order of things, whether we assist or obstruct it. Individual co-operation or a unity of moral forces makes organization—and that is our county society. Co-operation and cohesion between our county societies make our State Society. The interests of each are identical and no unit

can long survive disassociated from or antagonistic to the common welfare. Our State Society is war worn and war shattered. We appeal to you as individuals and as county societies to wake up, rub the cobwebs out of your eyes and see things as they are and will be. Quit the mad pursuit after fame and fortune. Make your achievement co-operation with your neighbor instead of sticking the javelin into his back. You may get by him that way, but remember that he has the advantage of your back for a target—and you'll get yours sure as fighting. Do the real decent thing a few times and you'll not only get a deal of satisfaction but you'll get the habit. Go home, get the boys together and have a real live county society meeting, then write the *Journal* about it. Get the other fellow to help you, and do better work in your community. Your people will appreciate that if you will give them a chance. Do your part in making the medical profession a real live factor in the readjustment and rehabilitation of this poor old war worn, battered and shattered, torn and tattered and altogether frazzled world.

MICHIGAN STATE MEDICAL SOCIETY. SECTION ON PUBLIC HEALTH.

SESSION, WEDNESDAY AFTERNOON, MAY 21ST,
AT THE HOTEL TULLER, 2 P. M.

DETROIT, MICH.

(The meeting was called to order by Chairman R. M. Olin).

The Chairman: The meeting will come to order. I might say in passing that I was in hopes that we could get a good attendance so that the State Association would make this a permanent section of the meeting, but something has gone wrong somewhere, along with the rest of the things that have happened to this meeting.

The first paper on the program is “Relationship of the State Board of Health Laboratory to the General Practitioner,” by Dr. C. C. Young.

DR. C. C. YOUNG, (Lansing): Mr. Chairman this cannot be taken as a paper on this particular subject, but I thought that I might outline what we were doing or what we expect to do and rather throw the thing open for criticism and suggestions from the members of this section.

The laboratory of the Michigan State Board of Health has been handicapped as I am in-

formed by not having sufficient funds until recently the legislature has seen fit to re-organize the department, and give Dr. Olin, your chairman a chance to build up the laboratory along with the rest of the work of the department of health, and he hopes to continue the work, to broaden it out and bring it up where it can be of maximum service to every practitioner and every health agency and department.

In connection with a health department there must be an infectious disease laboratory, one dealing with the diagnosis and controlling of infectious diseases, and if the general practitioner will use the laboratory he will furnish a great deal of advance information to the Department of Health and to all departments of health for the control of communicable diseases and will cut down the epidemics.

The foundation of the work deals with tuberculosis, diphtheria and epidemic throat infections in general; pneumonia, venereal disease work, typhoid and the water borne diseases and insect borne diseases, which are in the typhoid group as well, and we hope to be in a position, and will be in a position in the near future to handle anything along that line that the doctor may desire.

Another thing that we can also help out the doctor on is feces work. Remember there is a lot of feces work that should be done. There is a lot of parasite work, intestinal parasite work that is only occasionally done by the general practitioner that we can handle very well. We would like to help out in this work. There is no question but what the intestinal parasites are public health. I don't know if we have any hook-worm in Michigan. I doubt if we have, but there are intestinal parasites that we need protection against.

With relation to the tuberculosis work, at the present time and in the future we expect to extend that not only to making the dry smears on sputum, but to do culture work in tuberculosis work, and if necessary animal inoculation work, which means we will be in a position to handle proper specimens of sputum and do animal inoculation work. In cases of doctors sending samples into us in envelopes and we get them in a sterile condition we will undoubtedly be able to do some definite culture work, as well as dry smears and staining for tuberculosis.

The sputum work for pneumonia can be done within a certain radius of the main laboratory if we can get properly collected specimens and

they come into us so that they are not more than twenty-four hours on the road, we will be able to tackle pneumonia for the doctors in the state, and the railroad facilities are such that this can be done under normal mail conditions. At the present time the mail conditions are pretty badly tied up, but if we can get twenty-four hour service on throat specimens we will be able to tackle pneumonia. This work has not been done in this part of the country at all, but we are getting facilities for doing this work.

In diphtheria work we hope to enlarge the work so that we will do streptococcus work, and general throat infection as far as we can. This means that the doctor has got to help. If we hope to do any streptococcus work we have got to have the collection of proper samples, and furnish the physician with blood serum as well as the swab in certain instances.

Right here I may say if we do this detail work for the public health department we have got to have more definite information as to the source and a little bit better sampling than we have had; more careful sampling. There is no question but what one of the largest public health infectious disease problems is the streptococcus class—streptococcus sore throat. Epidemics are occurring every year, and it is a well known fact that it can get to a point where it will kill in a few hours. It has been demonstrated in our army camps that today the virulent streptococcus common throughout the country is a dangerous organism in throat lesions. With no apparent symptoms at night, you will have a general septicemia the next day. That should be diagnosed, and should be more carefully controlled, and our laboratory will be in a position to make a diagnosis of analytic streptococcus. This cannot be done very handily in a small laboratory because we cannot keep late blood cultures, consequently if we can get the co-operation of the doctors to send in samples of serum we could get this information for them and get it quickly.

In venereal disease work we are making smears for gonococcus and microscopical examinations for gonorrheal infection. We expect as the laboratory develops to put in a serological department for competent fixation work where necessary.

In the Wassermann work we are today doing a great many Wassermans, both for physicians, social workers and hospitals. We are running so many that in fact the work has increased so rapidly that we hardly know where this work

is going to lead in the future. One of the most important things in connection with public health work is venereal disease work, and we want to and will be in a position to give every physician in the state diagnostic work along syphilitic and gonorrheal lines, and the best work that is possible for anybody to do. By this is meant we want to have our diagnostic work so carefully done that it can check with anybody, and it certainly will be done. It seems almost miraculous how this work has grown now the physicians of the state have taken it up. Last month we did over thirteen hundred Wassermanns. With that volume of work you must realize that it is an enormous task. Only yesterday we had 130 specimens of blood sent in from places in the State of Michigan for Wassermann test. If it keeps on growing the way it has we will have a broad gauge working basis for diagnosis of syphilis in the State of Michigan, and our reports are unquestionably being used as a means of spreading the educational propaganda through the social service workers, and through the venereal disease division of the Board of Health and county organizations. There are many cases where the physician is at a loss for diagnosis, and simply as a last shot he sends in a sample of blood to the laboratory for diagnosis or for a Wassermann test.

Now, right here I beg the physicians to give us the information we want. We want more information than we get. There isn't any of you men like to just have a neighbor come into your office, and say to you "My child is sick, give me some medicine for him." You want more information, and we want more information. We ran 1,300 Wassermann tests last month, and we would like to be able to sit down at the end of the month and say a certain number of these tests are primary, a certain number of them are secondary and a certain number are tertiary cases. We would like to sit down and study our laboratory, and find out from our clinical diagnosis whether that person had primary, secondary or tertiary syphilis. We would like to know it. It would not change our procedure. We would like to have all the information we can get, and anything you gentlemen can do to help us in getting full information will enable us to give you just that much more information and greater service.

We have as you know, a swab will come in to us in an envelope, a dirty old piece of paper wrapped up in an envelope, and a week later we will get a letter from the doctor who sent

it in for examination wanting to know why he has not got a report on it for diphtheria. It does not do justice to the State Board of Health and it is not justice to the physician that sends in the sample, but if it is possible to get the information in each sample we would be able to give better results.

Another thing is, we get samples of feces, for instance saying, "Please analyze." No information as to what they want or what information is desired or what kind of a case it is from or anything about it. It seems that they think that laboratory workers in general must be clairvoyants. That is not what we want to do. We want to get the co-operation of the physician so that he will give us full information and give us an opportunity to think over the case, and we can go direct in the first place to it, and then if we miss we look for something else. In that way we can give a great deal more service. We hope to work out some plan whereby we can give the practitioner information as to the best methods of collecting samples and in sending in samples to the laboratory, get his co-operation so that it will keep, send it in packed in ice or something like that, and in such a way keeping up a small stock of media for sending in cultures, and so that the cultures will come to us in such shape that we can give a more extended investigation to it.

Now, as you all undoubtedly know, diphtheria organisms live very nicely on the end of a little cotton swab, and if we had arrangements with central bodies, such as county health units or district health units we could furnish blood sero-media, and then we would have the organisms in such shape to study them, and see whether there is anything else besides diphtheria present. That is the fundamental argument for the new county health unit and county health officer that we are all so desirous of seeing ultimately put into effect.

Now, again, we come to the water works and the engineering side and the sanitary side of the work. Milk. Milk as a food is handled, of course, by the food division but milk as a public health problem is handled by the State Board of Health. Investigations of epidemics that might occur from milk can be referred to the laboratory for study. We expect to extend the laboratory for health divisions, for engineering information, for sanitation and sanitary engineering. There is only one thing that I want to repeat the importance of getting the stuff to us quickly. I don't know whether the mails are prompt enough in many instances or not.

I think that where life and death is involved that the telegraph and telephone should be used more extensively than they are used. We have lots of physicians who send in diphtheric cultures with no information as to whether or not we should telegraph results when they are found positive, and in fact we have sent telegrams and had them refused, when we thought that it was well worth while to telegraph. Where we have found an analytical streptococcus infection of the throat, and we have wired and in one or two instances we have had the telegrams refused. It seems to me that that side of the work between the physicians and the laboratory should be developed more and more to speed it up and get stuff out of the laboratory and back to the physician as quickly as possible.

I don't think there is anything else that is of enough importance to discuss fully, except that I would like to answer any questions that any of you men have as to our methods of procedure or what you expect to do, or what we would do in special cases which you want to know about our work. I will be glad to enlarge on it if you wish.

There is a tendency on the part of physicians I notice which we have tried to help them out on as much as possible, and that is to do diagnostic work with pathological specimens. We do not do that, because they are not of a public health nature. We are trying to pass those on to some commercial pathological laboratory where they will be handled for the physicians, and wherever possible we will forward the specimens to some such laboratory and advise the physician where it is forwarded to, or if it is close in we will return it to the physician with a list of commercial pathologists.

I know that there is a great field for this laboratory work, and the fact that the legislature has come through with a good sized appropriation shows that they appreciate the work of the Board, and if the physicians will all get behind it and boost there ought to be in the next four to six years a wonderful development in the usefulness that our organization can do to the practitioner as well as the public health divisions of the state. I thank you. (Applause).

THE CHAIRMAN: Gentlemen, the topic is open for discussion.

DR. V. C. VAUGHAN: (Ann Arbor): MR. Chairman, I think that Captain Young's talk, or rather Dr. Young; I should say—that Dr. Young's talk with regard to the laboratory work in the State Board of Health is probably an eye-opener to several of us here. I think that

there are very few people who realize what the State Board of Health is doing, and what the State Board of Health pretends to do or intends to do within the next two years. I think it behooves every one of us to further the work. Each individual one of us is in a position to further the work of the State Board of Health laboratory, and to further activities of the State Board of Health, and we ought to get back of the State Board of Health as a unit. Do some propaganda work. Make the people of the state, or in each city and each county realize what a vast amount of work the State Board of Health is doing, and the results that they are accomplishing. I think that the legislature has had its eyes opened. They certainly must have opened their eyes or they would not have appropriated the vast amount of money which they have for public health purposes in the State of Michigan. I think that it behooves us all to put our shoulders back of the work in the State Board of Health in every way we possibly can. Run a health community.

Here in Detroit, of course we have our own laboratory facilities, and we are doing the same class of work, but probably we haven't as much of it to do, because the state at large will handle necessarily far more work than we handle here in Detroit. Detroit probably represents not more than 75 per cent. of the state in so far as public health activities are concerned—or I should say about 30 per cent. of the state. So that the work that you have before you in the State Board of Health is of far more importance, and we will certainly do everything we can here in Detroit to try and further your activities to increase the good will and feeling towards the State Board of Health.

THE CHAIRMAN: The meeting is open for discussion on the paper. Has anyone else anything to say?

DR. ANSTED: I would like to ask Dr. Young if there is any immediate prospect of establishing these county centers.

DR. YOUNG: For maintaining the distribution of the serum—sero-media?

DR. ANSTED: Yes.

DR. YOUNG: I don't know how that is going to be brought about unless we get on a voluntary basis, unless some county health officers or district health officers volunteer to keep a stock. Where they are interested we will furnish it.

DR. ANSTED: You will furnish it if they are interested; if the county co-operates?

DR. YOUNG: If the county co-operates, we will furnish it.

DR. PULLEN: I find one thing in reference to filing the reports and filling the reports out. We are confronted with the refusal of the patients to give you any description of the case.

DR. YOUNG: I realize that.

DR. PULLEN: Just yesterday I said to a nurse at the detention hospital a girl came to my office with an open sore on her lip, which I believed to be a chancre, a syphilitic chancre. I sent a specimen of blood into the department and they sent back a report of 4-plus; an absolute denial of anything in the world the matter with her. What could I do, I could not fill out anything.

Another case was the beginning of tabes in my judgment in a man of 60 years. Absolute denial of any infection in his life time, and yet we received a 4-plus Wassermann and gave him six shots of Salvarsan and he almost completely recovered. So you see that the general practitioner has to contend with that.

DR. YOUNG: Yes, I understand. They gave you no history of it.

DR. PULLEN: Absolutely none.

DR. YOUNG: Apparently there was a primary syphilis in the first instance and tertiary in the last.

DR. PULLEN: Yes.

DR. YOUNG: But if we could have had that information on that it would not have happened. In both these cases you got a 4-plus Wassermann?

DR. PULLEN: Yes.

DR. YOUNG: Suppose you got a 2-plus Wassermann and we had no information, you may have been a little bit hazy. If you had got a negative in the case of tabes we wouldn't have had anything to tell us whether our negative meant whether it was all right or worthless, but if we have at the end of the month that information saying that this was a tabes case we would say, "Well, we missed that one," and we might have even come back at you. I know we have missed tabes cases.

DR. PULLEN: We keep the serum tubes for diphtheria and for typhoid fever. We have them on hand to be used all the time. I keep three or four dozen of blood serum tubes in my desk for use to furnish to any doctors that desire them.

DR. YOUNG: That is fine; that is very good.

DR. NAGLE: I have been particularly interested in the question of diagnosis of diphtheria, and during the short time I have been in Michigan my experience has been that even when there is a positive diagnosis of diphtheria the

initial dosage of anti-toxin is always too small. In the east there is no limit to the size of the doses we give. We always believe in giving the first dose to make it as large as we can conveniently give, and if there is no reaction within four or five hours we give another dose, but here, or in Jackson, at least, many of the doctors have formed the habit of giving a dose one day, and in 24 hours repeating the dose.

It seems to me if you are going to develop your laboratory that it would be wise to perhaps have a little propaganda along that line—distribute pamphlets among the physicians in the state so that they would make use of the telephone and telegraph, and send in their diagnosis with the throat specimens sent for examination, and at the same time some arrangement ought to be made to give them a little more instructions as to how anti-toxin is to be administered. It is possible with the concentrated anti-toxin that we have now, that you don't have to use three or four 20 cc. syringes to get a moderate dose to give to a child, but that is not on sale. At least I have not been able to get it in the state. I don't think it is good business policy for a state to undertake the distribution of anti-toxin itself. I cannot purchase it in Jackson, and I could not get it anywhere.

I think there is a good deal of truth in what Professor Seidlitz (?) says that if he is establishing a public health department in any state to get a good laboratory, he ought to get a good publicity man and the rest of the work is built up when you have the time.

I think that Dr. Young is to be congratulated, and I think that the department is very fortunate in getting a man of such wide experience as Dr. Young is, or getting a man who has had the experience that Dr. Young has had in public health work, and I am sure that if the people will avail themselves of the opportunity of securing such a man as head of the laboratory department, that Michigan will benefit by it.

MR. G. A. WOOD: Mr. Chairman, I think perhaps a good many of these discrepancies between the physicians and the laboratory of the state board of health may be simply to some extent unavoidable accidents, and simply some things that will happen.

I had two experiences in sending specimens to the state board of health laboratory, that perhaps would be a little bit interesting on account of being so opposite.

I was practicing in a county in the northern part of the state. One of them was a little boy

who was taken with a sore throat, but he was not very sick; in fact he was so slightly ill that I had a great deal of trouble in keeping him in bed; in fact, he was not in bed, he was on a couch. And I could not keep him there all the time. But I was very suspicious of the case on account of there having been an epidemic in that location a short time before I came, which no one seemed to know exactly what it was, but from the history I got I took it to be diphtheria. So I sent a culture to the State Board of Health, and it was two, or three days before it came back, or four days, I forget now how long it was, but it was some little time before it came back. By the time I got my report (which was positive) my little boy was up and around, absolutely out from under control. So that all the report amounted to was simply to confirm my suspicions, but did not help me in my treatment of the case.

The other case was sometime after that. I had a man of full age who was sick in the country a long distance from my office and the road was bad. He had a desperate sore throat. On making a call on this particular day I found him unable to swallow, and while I had considered the case as tonsillitis I was worried by the desperateness of the situation, and I very hastily prepared a swab, wrapped, not in a dirty piece of paper, but in a clean powder paper, and put it in an envelope. In fact, wrapped it up in more than one paper and put it in an envelope, and sealed that up, and put it inside of another envelope, and sent it to the State Board of Health in a hurry. Well, I did not get any answer to that, and I treated the man along for several days, and he finally recovered. But I rather wanted an answer to my report on my specimen, so I wrote the State Board of Health. I think it was before Dr. Young was there. It was a number of years ago. I got a letter back in reply stating that I had violated the United States Postal Laws, and they could not be expected to send a report on any such specimens.

I think as a matter of fact that I was negligent; it was probably a streptococcus infection, but at the same time I was worried about the patient and I did want a report very badly, and I was rather disconcerted in not getting it.

DR. GUY L. KIEFER: (Detroit): Mr. Chairman, some of the remarks made by the last two or three speakers brings something to my mind, and I think we all ought to think of, and that is that these doctors I hope will go

out and boost the laboratory of the State Board of Health for all they are worth.

The last speaker brings me a thought of what I want to say. That is in getting out our propaganda certain physicians should be taught that they ought not to depend entirely on the State Laboratory to make their diagnoses for them. The laboratory is only an aid to diagnosis and don't wait until after you get your report to do anything. I don't care if you get it right in the same city. In a case of diphtheria, for instance, if you have a case that is suspicious to the doctor, you naturally want to find out whether the patient has got it or not, that is the time to give your anti-toxin, and not wait 24 or 48 hours, or four days, for the return of the report. Also do not exclude your clinical diagnosis because you get a negative laboratory report. There may be some reason why in some cases there are negative reports, and in other cases positive reports. You may get a negative laboratory report, and a positive clinical diagnosis.

The thing I want to bring out is that I certainly do appreciate the laboratory; and I hope that the State Board of Health Laboratory will be used to its limit; but I do also appreciate the danger of the improper use by the practitioner, in depending on the laboratory, expecting a man fifty or sixty miles away from him to make his diagnosis for him. I think that is the reason Captain Young would like to know more about the facts of the cases, so that he can make some intelligent statistics. That ought to be done. I don't think we ought to have much to do with the treatment. I don't think that is exactly the function of the preventive medical department. But I do think in our propaganda, in urging people to use the State Board of Health Laboratory, that we ought to urge them not to let any negative finding interfere with their diagnosis. It is their duty to get the people well. I think that thing ought to be kept in mind all the time.

THE CHAIRMAN: Are there any further remarks on this discussion? If not, we will listen to a paper by Dr. Nagle, health officer at Jackson, Michigan.

DR. NAGLE: (Jackson, Michigan): I haven't any paper, Dr. Olin. It would be impossible for me to read one if I did have one, on account of a sore throat. I asked Dr. DeKleine to make a few remarks in my place, to which he consented.

DR. DEKLEINE: I think I ought to say something, Mr. Chairman. Dr. Nagle spoke

to me in the hall. He said to me: "You take my place, please." I feel something like the colored man who was brought before the Judge because he licked somebody. The judge said to him: "Did you beat this fellow?"

He says: "Yes, sir, I did."

The Judge: "What did you beat him for?"

He said: "Because he called me bad names."

The Judge: "What did he call you?"

The negro: "He called me a rhinocerhorse."

The Judge: "When did he call you a rhinocerhorse?"

"About a year ago."

"A year ago?"

"Yes, sir."

"And you beat him yesterday, because he called you a rhinocerhorse a year ago?" Why did you wait that long before you beat him?"

The negro: "Because I never saw a rhinocerhorse until day before yesterday."

I don't know just where to begin. There is no subject assigned to me, and no paper, so I am just going to start out and say something about public health in general, as to what I believe constitutes a public health program in general. I hope that you will listen closely, and enter into the discussion.

I think our modern outlook on public health is decidedly different than it was ten or fifteen years ago. Our past outlook in public health has been largely contagious diseases, such as diphtheria, scarlet fever, small pox, and so on and so forth. But if we look over the death statistics, the death rates, as they occur in Michigan, I think we cannot help feeling that if we are interested in the prevention of deaths, and interested in the prevention of sickness, that our activities should extend in other directions than ordinary contagious diseases, even including venereal disease.

For instance, in Michigan we have an annual death rate of something like between two or three hundred a year from diphtheria, sometimes less and sometimes a little more; something like two or three hundred from scarlet fever; and something like that same number from typhoid, or less. I don't know what our death rate is from small-pox. It is perhaps very low, perhaps twenty-five or fifty a year. Then, if we study the death rate as it occurs among our babies or infants, we find we have a death rate of something like six thousand children under one, and something like eight thousand children under five; an enormous death rate. We have something like twenty-five hundred to three thousand deaths from tuber-

culosis; and something like two thousand deaths from cancer. We have something like twenty-five hundred to three thousand deaths from pneumonia.

If we study those death certificates, then we cannot help feeling that these deaths occur in a field in which we have not been so very active. Now, I don't mean to say at all that we must not remain active in contagious diseases; we must be very active in reducing contagious diseases and deaths from them. We must not let up one bit. We must even improve on that work, we must not let up one bit in anything that we have been doing. It seems to me, however, that the time has come when we must broaden out and engage in those activities which are most effective, or where our highest death rate is; and one of these is especially among infants under five.

It strikes me that Boards of Health do not pay quite enough attention to that sort of thing. I don't mean any particular board of health; I am speaking in general. We have not been paying enough attention to doing definite infant welfare work in any community. If we are going to cut down the death rate among infants under five, we must engage in definite welfare work among infants, if we are ever going to cut down that death rate.

Then there is another thing we should pay more attention to than we have in the past, and that is deaths which occur directly or indirectly from focal infection in our school children. During the past year I have made a survey of our school children in the city of Flint as it pertains to the infection of the mouth and ears. We have examined every child in the schools, something like twelve thousand. We examined their teeth, tonsils, tongues, ears, eyes, and so on and so forth. We find that there are something like 88 per cent. of our children in the schools (and these are not our own figures; they have been given before) have dental defects in some form or other. Seventy-five per cent. have definitely diseased tonsils; and 10 per cent. that are questionable, that is, whether they should be removed or not. There are a large number of other focal infections, ear, nose, and so on, and so forth; 15 per cent. of the children in the schools have defective vision. I don't mean to say that that is a public health question, the matter of vision, but incidentally it should be attended to, anyhow. It is a part of the work. I believe there is an enormous death rate occurring every year, due directly or indirectly to focal infection, starting from the

teeth or tonsils, or some such thing; and under our modern system of practice, of medicine, we do not reach those people. This is not a criticism of the physician, it is not their fault, but it is because of the negligence of the people in general; they do not pay the attention to the children that they ought to pay. We made a sort of a rough survey of the dentists' reports as to how many adults get dental attention. It was found that not more than 10 or 15 per cent. of adults in a community have dental attention of any kind. The majority of the people in a community don't know what it is to visit the dentist or a dental office. The dental offices today are so crowded, their appointments are filled up two or three weeks in advance, and even though we could get to every child in the school, and advise the parents that they should go to the dentist to have their teeth looked after, if they are going to avoid trouble, the dentist could not take care of them. There would not be enough dentists to go around.

In other words, there are so many children, 88 per cent. of them in the schools, or thereabouts, say 85 per cent. in the schools, speaking generally, who do not get the attention they need, and under our modern system I don't see how in the world they can get it unless we bring it to them in some form.

The same thing is true of infected tonsils. The physicians are not to blame for this, either. It is just simply a matter of circumstance, or whatever you want to call it. These parents, perhaps, never give their children any attention, and they are allowed to go from year to year without any attention at all, and they never give it a thought, never tell us there is anything wrong with their tonsils. Unless we get into the schools and examine these children and tell them definitely, and tell the parents definitely that there is trouble there that ought to be looked after, we are never going to get these defects removed.

The same thing is true of eyes. If we are ever going to correct defective vision we have got to get to the parents and inform them as to what is wrong with the children, because they themselves don't have their children examined. This is simply a thought which occurred to me, because it is a mighty vital phase of public health work. It certainly seems to me that public health work is not contagious and infectious diseases alone, but it is welfare work of such a nature that we will accomplish something definite. I believe if we are going to cut down the death rate among children of

school age, and children that are in our grades, if we are going to cut down that rate, I firmly believe we have got to do something definite to get the information to parents as to the conditions that are undermining the health of their children.

Doctor Mayo said (I have forgotten the percentage, and I won't quote it for fear I might quote it wrong). What is it Dr. Kiefer, 85 per cent. of all the infections in the body originate above the collar?

He made a statement of that kind two or three years ago that by far the majority of infections that the body falls heir to originate from the teeth, tonsils, nose, and things of that kind, infections in the head; and he also made the statement that one of the next big steps in the medical profession would have to come from the dental profession. That was Dr. Charles Mayo, I think, made the statement. I can't tell you where I got the idea, but I remember that.

So that I believe if we are going to do real preventive work that is going to cut down death rates, and prevent chronic disease among people, such as valvular heart disease and rheumatism, and infection in general in the body, which is a big part of our illness in the body, I tell you I believe we have got to do this educational work in the schools.

Now, that is not work which is going to interfere with the doctor's business; it is work which gets the physicians and patients together, absolutely. That is all it is. It is a work which tells the parents what is wrong with their children, and gets them in touch with the doctor, or gets the knowledge to them which they ought to have, as it pertains to the health of their children, and gives them an opportunity to have it corrected, if they are interested, and if they are in a position to do it, and if they are not able to do so some one should see that it is done. When I say this I don't want you to think for a minute that I am placing that part of public health work as the big part of it. I am just simply discussing it, because I believe it is a new field. We know about contagious diseases; we know the importance of proper milk and food supervision; we know the importance of general sanitation in a community. We know the importance of housing, and all those things, but I don't know if we appreciate in general the value of public health work as it ought to be done I believe among our little babies in a community through the visiting nurse, and among our children of school age in the school.

I believe there is a wonderful opportunity there to do much towards making a much better race, as they grow up into manhood and womanhood. I thank you. (Applause).

THE CHAIRMAN: I think these remarks have awakened a good deal of discussion.

Dr. —————: Gentlemen, I don't see that that should awaken very much medical discussion, but we should urge it on not only on the part of the parents, the fathers and mothers, but on the doctors of the communities. Especially important is this matter of focal infection.

We have been conducting a little examination over in our little one-horse town, where they were a little reluctant to receive our advice. We called their attention to one or two cases that they knew about and knew well who have recently died, and there is no manner of doubt but what their death was brought about 20 years before it should have been, due to a focal infection or bad tonsils. In one or two cases where you can give a definite statement and tell them without a doubt so and so died due to trouble produced by bad tonsils they will sit up and take notice.

I think that the remarks were very appropriate. The matter of the so-called contagious disease is being taken care of as well as it can be perhaps under present conditions. There is one thing about the health laws on contagious diseases in Michigan that I want to live to see changed, that I want to see Dr. Olin and the State Board of Health get changed sometime during my life time, and the sooner the better, and that is the law regarding small-pox. Small-pox costs the taxpayers a tremendous amount of money in Michigan every year, which is entirely unnecessary. If Dr. Olin or the State Board of Health will say that, "If you men prefer to have small-pox to being vaccinated, go to it." I think they will all go and be vaccinated perhaps, and it will do away with a large part of the public expense, and let them take care of the private expense as they want to.

I wish that could be brought about. It is a law I understand, or practice, in some states to not quarantine, and not pay any attention to small-pox. I believe that is well. I believe there would be less in Michigan. I know it would cost them a great amount less.

Dr. —————: I am only a practitioner in a small town, but I have had some very definite ideas relative to health matters. I have also had some experiences, some of which have not been pleasant and others which have. I

don't believe that our Brother Burleson could really mean all he says concerning small-pox or any other disease. I believe that our brother from Jackson who just spoke hits the nail on the head, and I think he hits it on the head, not only for the larger cities but the small ones as well. I don't believe there is any one of you who does not believe as he does, and if there is any one who does not believe as he does he should not be allowed to be a health officer, even in a little community.

I further believe that the law should be changed if such a thing is possible, so that nobody could be a health officer even in a little community who is not an "M.D.," and not only say that he was an "M.D.," but that he believes in up-to-date preventive medicine.

In our own town we have had some rather unfortunate experiences, and yet may be they may have been fortunate also. I don't know whether any of you men remember me or not three or four years ago when I had quite a set-to over there along the diphtheric line, and I think probably the largest danger in diphtheria carriers, if you remember, was brought to light in the State of Michigan, and since that time we have had a great deal more attention paid to these things, and I think we have also had a great deal less diphtheria than we had before. I think probably I paid for a part of that myself.

I am not a health officer at the present time, and I think probably the one reason is because I have had my experience, as most of you men have, who take health officers places in rural communities and try to perform your work conscientiously according to up-to-date methods of medicine nowadays, and after that we don't feel it is advisable for us to re-accept the office. In our own town that particular thing has happened. There are three or four men who will take the place who have taken the place in the past, and personally we have said that we would not accept it unless we could get some kind of a recompense for the time and trouble and labor we put into it conscientiously. Secondly, we told them what our figure would be for the work, which they refused. I will say up to that time, however, we had never gotten more than \$100 in our town for what work we did—\$100 a year for the work they did as health officers that year. There are physicians who say that they would not take it for a certain figure, or would not accept it until it was raised to a certain figure. They finally came around and employed a layman, and they have got a very

efficient layman health officer, and for which he receives one dollar a day.

I think if the physicians all over the state would refuse to accept the places of health officers until they have come to a realization of what the physicians were really doing for them, in the way of trying to point out to the men who are better qualified in the community as to what they have been doing for them that they will after a while be willing to pay a little more for the service they are rendering, and I hope to see the day not far distant when the laws will be changed so that no man can be a health officer in the State of Michigan unless he is an "M.D." in the town he is serving.

DR. GUY L. KIEFFER: (Detroit): I was thinking about doing something besides taking the places of health officers looking directly towards the prevention of contagious diseases. Let's start right here in our meeting. For God's sake let's ask our reporter to sit somewhere where he can get some light and not ruin his eyes; that has been worrying me ever since I have been here in this meeting, he has been sitting there where it is dark, and I think he ought to move over where he can get more light.

(The reporter moved his table over towards the window.)

That is what we want to do. We want to progress along all these lines.

I agree with the doctor absolutely, but I do certainly think that we are justified by our rather long experience in public health work in throwing out a warning to you. Gentlemen, I am glad Dr. DeKleine corrected his terms. Don't let's ever say we know all about the prevention of contagious diseases and take them and exclude any particular disease. Dr. DeKleine did correct that. We have not got anywhere near preventing the acute contagious diseases and chronic ones which are directly due to them. Of course, as he said that work wants to be kept up.

With reference to small-pox I feel like the gentleman does, that if a fellow wants to have small-pox let him have it. I have felt that way a great many times, but when I look over some epidemics and the result of letting a thing like that happen I change my mind, but they will have it just the same, and then you will get into a corner like they did in Saginaw or in Grand Rapids. Detroit is some place, and if you were to do that you will have a great big epidemic of small-pox as the consequence of that teaching which was not followed, and then you will have the ruination of the business interests

besides. I think it is a dangerous procedure. I have felt a great many times that I don't think it is safe on account of the results that would follow. If you don't keep on trying to educate people to prevent small-pox you will be up against an epidemic the first thing you know. Of course, everybody ought to know by this time what small-pox is; they have been at it over one hundred years, but they won't do it.

With reference to the other things that have been spoken of in regard to health activities that should be taken up by organized boards of health, and some of these activities that Dr. DeKleine has spoken of have been taken up for the past twenty-five years, at least the system of medical inspection in schools in Boston and followed rapidly in other cities. A great many of the things have had attention paid to them to the extent that they have been called results of focal infection, because we did not know that word except as applied to tonsils. We didn't know of the many cases of poison found at the roots of teeth until the X-ray came to our aid and showed it. I have made the statement in the past that the specialists in the profession allied with the medical profession, who have been away in advance of us, in preventive work, have been the dentists. They thought they were. They did teach their people to come in and have their teeth filled up and extracted, but as a progressive dentist told me less than two months ago, "We thought that we were progressing along modern lines, but what we did was to fill cavities and root canals and cap something over them which caused a lot of trouble, and we didn't know we were doing it. Now we find we were not doing it right, which is the result of the knowledge we have gained from the X-ray. Of course that knowledge could not be applied until we had it."

What I really want to say is I would like to add this to what Dr. DeKleine has stated, he said it, but I don't think he emphasized it, and that is this work of educating parents to properly care for their children from babyhood up should be brought to them by the doctor. As I said in the case of schools I think it ought to be brought to them in their homes; in other words, through the nurse. I want to emphasize that the biggest help in public health work is a nurse or more nurses.

When the medical inspection of school systems was started in Detroit about fifteen years ago at first by the doctors with cards sent home to the parents calling attention to various physical defects that have been mentioned here this

afternoon, less than ten per cent. received attention, either through taking them to a doctor or dispensaries. After the establishment of a system of school nurses I think the percentage went to about 75 per cent. of them early in the work who received attention; that is, because the nurses went to the homes and followed up this card and gave the attention or instruction by word of mouth to the mother.

I think that the big work in public health work is an educational campaign. I think we all agree on that. We must educate the doctors in general and the people in general to do the things that Dr. DeKleine has pointed out, and the best way to educate them I think is by getting public health nurses who are trained in public health work into the homes.

DR. DEKLEINE: Mr. Chairman, I don't want to leave the impression for a minute that we have not been working under the laws and doing it right. I think your reports at Lansing will show that. I am doing my best as health officer in our township to prevent these diseases, but in that particular case it seems to me that it is utterly useless. I don't believe, Dr. Kiefer that we are doing right when we allow them to state, "Well, now, here, I don't believe that small-pox stuff, and I will run a chance on that. Dr. Kiefer is paying attention to it, and he will see that I don't get into it." But if they know that Dr. Kiefer will not quarantine the case they will take care of themselves. I believe they will pay more attention to themselves and do it quicker and better. I think that is all. There were one or two other things I thought of, but they have already been covered.

DR. ———: I want to also endorse Dr. DeKleine's remarks and further endorse what Dr. Kiefer has said. We must all realize the fact that this is a campaign of education. It is my good fortune to live in the county of Washtenaw, and I have been waiting for some of you gentlemen to talk upon the subject too. The American Red Cross as you perhaps know, is instituting throughout the United States a system of public health nurses. The county of Washtenaw is the first county in the State of Michigan to establish a central division and establish it as a county unit. I happen to be on the county board, and we appropriated some \$20,000 for the maintenance of seven nurses. We have divided the county into districts and in my town we will have the resident nurse, and we also have one supervising nurse, and we are beginning as Dr. Kiefer said, not only at the

cradle, but before the cradle. We are holding classes of instruction for pregnant mothers. Just to illustrate a little of this work that has been going on for five years. We had our first dental inspection and both of our dentists commented upon the great number of six year molars that had been extracted or were gone so far as to be beyond repair. A few years ago we had a public clinic weighing and measuring babies, and the clinic was scheduled for two days. We put on a campaign of education for two weeks previous, and we closed the second night with 70 unexamined cases, and we were obliged to hold a third day clinic on Thursday. We examined 250 cases in those three days.

In conjunction with this campaign of education we held a dental inspection of the schools at the same time, and if the dentists found anything suspicious in the throat they sent the children to the clinic and I took pains to ask the dentists afterwards, and they both made the same remark that in the entire school of some 150 children they did not find a single six year molar missing or that could not be repaired due to the fact that this was started, and the parents themselves have been educated by sending these slips home with the children. Take my own little boy, for instance, he came home with a slip that he had a cavity that needed filling. That just illustrates what your campaign of education will do, and I believe this Red Cross proposition is going to get by if it has not already done so, in every county in the State of Michigan. The idea is that most of the county chapters have funds sufficient to maintain them one year and some for two years, and the idea is also to make it so valuable that the public either through the County Board of Supervisors or through the municipal boards or eventually through the state legislature. The public will realize that this is so valuable that there will be a popular demand for an appropriation to make it a permanent affair, and as it comes up to each of you men in your different counties see to it that you take it up with the nurses and the men that are interested. There is no question but what public opinion will make it permanent.

DR. YOUNG: That is all a campaign of education. This will be a short story but I think it illustrates just how far we have gone in the campaign of education in public health work. I had my pins knocked completely out from under me the other day. There is a woman in Lansing, Michigan who has sent five tertiary

eases of syphilis to us and we have returned in each instance a 4-plus Wassermann.

I called her up and found that she was a woman of only moderate education, I think she has not completed high school, in fact, but she had been reading about the venereal diseases, campaign of the Board of Health of Michigan. She runs a beauty parlor and manieuring shop, and she has picked this information out of people that come to her for treatment and are apparently not yielding to treatment, and she doesn't want to handle them so she sends them to the laboratory and we have returned a positive Wassermann on all of the five cases she has sent, and I think that is going some.

DR. SMITH: Mr. Chairman, I have been very much interested in this discussion. I have been listening to it, listening to all of it, and especially this excellent talk that Dr. DeKleine has given us.

I think the main thing that we have got to look after in this matter is right along this line of education, and we want to be careful that we don't make mistakes, and see if we can go along without making mistakes. There was one matter that came up here in this convention. What was it? Small-pox. Now, I think sometimes health officers have done a good deal of harm by putting too much stress on the quarantine, because you cannot fight small-pox successfully by quarantine. There will be some cases that will be too mild. But you can fight it successfully by vaccination. Now, if we emphasize the quarantine in such a way as to make the people satisfied to neglect vaccination we are doing harm. We want to be careful not to do that. Quarantine may be a help to vaccination, but if you make it a substitute for vaccination you are doing harm, because you are making them neglect the thing that controls the disease and substituting something that you cannot rely on.

Another thing, there have been some things rightly said about our changing our ideas on health matters. That is a good thing. Why, we have changed our ideas. We used to think that the health officer's business was to put up a placard with a contagious disease sign on it, and perhaps order some poor man's privy to be cleaned out, and let the rich man's go if he had a nuisance on his premises, and I am sorry to say in Michigan that has been so.

These doctors have their own ideas about health services, but I think I can pick out some of the qualifications of a health officer. First of all he ought to be a protector of his people.

A health officer that isn't doing that, is not worth the salary he is drawing even if it is not over \$10 a year, because they had better keep it in the treasury, because if he is not educating them right he is educating them wrong. A man cannot be a nuisance in a community if he is a health officer. He has got to be doing good or else doing harm. If he isn't doing the work and getting the right ideas to the people he is an injury to health service.

Now, we are all changing somewhat, that is the tendency of all of us today. I think I can sum that tendency up in a word and that is to deal with the cause of diseases and prevent them, rather than what we shall do after we get them. We are putting more and more stress on the cause of diseases today. We know that polluted water will cause typhoid fever, and we are trying to teach the people that you cannot use the same stream for a well and a water closet without paying the penalty, and that penalty is often death. We are trying to get their thought.

Another thing in the matter of disease. We are placing emphasis upon venereal diseases, and we are going to abolish them eventually, but we have got a long course to run, before we get city broke, and get rid of venereal disease. We are stressing the importance of that, however.

By the same education that we are going to get rid of these venereal diseases we will get rid of the others. We are looking after the cause rather than fighting the disease. It is well.

So we might go along with other diseases. We started with tuberculosis in this state some years ago, and just as we got a real start we stopped. I don't know why the state of Michigan abolished it, but they did. They stopped after they made a good start, but we are going to go back to it, now, and we are going after these things one after another.

Another thing, we are looking to. For instance, in this war, when the government called its men to the field they found a large proportion of them were unfit for service and they rejected them. We are going to carry that lesson right home as health officers of the state that the man that is not fit for military service is not fit to do his duty as an American citizen. As health officers our duty is to see that he is fit for both. We didn't do it, and in this war the government didn't do it, because they sent them home. What ought to have been done was to have some means of making them

fit. We cannot afford to have such a large proportion of our citizens unfit for duty, either in peace or war. We are going to leave this to you. We are going to insist more and more on a higher class of men in the health service. We have got to recognize more or less that we are living not for ourselves alone, but in association with our fellowmen, and that many of these diseases we have are communicable or social, and we have got to recognize their social character, and everything of that sort, and our diagnoses of diseases have got to be along that line. We are going to take this health service thing off somewhere, and it is going to have the best of luck, not only along the line of saving men's lives, but keeping them healthy so as to deal with their efficiency as laborers. We cannot afford to have men doing half work, because they are weakened by disease.

We have got a big work ahead of us, but when we wake up we are going to put the health service of the world on a better basis all along the line. (Applause).

THE CHAIRMAN: Are there any further remarks. Dr. Vaughan who has the last number on the program is not here.

DR. DEKLEINE: I hope I have not left the impression that the work that we have done is not important. I don't want to leave that impression at all. It is mighty important, and every bit of it can be continued and then some.

Remember I had no preparation. I am getting up here without preparation, and it is pretty difficult to leave the right sort of an impression.

Neither do I want you to think that what I am presenting to you in my county is new. There is nothing new at all. It is as old as the hills, but is something we have not put in practice as much as we should.

I want to call your attention to what the City of Toronto, is doing. The City of Toronto, Canada, through the Board of Education began some five years ago to employ medical officers in connection with its schools, and dental officers and nurses. I was talking to the chief medical officer, Dr. Minns, a couple of years ago, and he told me at that time that they had something like 25 physicians and something like 30 odd dentists, and something like 40 or 50 odd nurses employed by the Board of Education entirely for the school children, and they had something like fifty or sixty thousand school children in the City of Toronto. He told me that in the three years they were active in doing this work, as I have outlined it, they had de-

creased the dental defects from 90 per cent. to 50 per cent. in three years' time in the school children, and the tonsils, I have forgotten the figure, but they were reduced very materially. The vision of the children was correct practically entirely, and he said that they intended to keep on building up their organization in connection with the Board of Education so that in a few more years they would be able to say as far as they could that all these defects in the children were corrected in the school, and I think that is a wonderful thing, and that it is going to do wonders for the City of Toronto. I believe so.

I am telling you these things, but I don't want you to think for a minute that I am giving you something new. Not at all. I don't want to leave that impression for a minute. It is a matter of education. Education is the big factor in public health work. I am thoroughly convinced of that myself. It is the big factor.

I was listening about a month ago to Mr. Price who was general manager of the National Safety Council, with headquarters at Chicago. In an address on the Safety First Movement he said this. He said that when they began the safety first work they conceived the notion that if they could go into a factory and put safety devices on all the machines in that factory that all accidents would be eliminated from that given factory, and he said they were experimenting, they had gone into factories and put on safety devices, put on all the safety devices they could think of, but yet the accidents continued. They were decreased some, but yet they were not decreased as much as they thought they ought to be decreased, and they finally concluded that if they were going to decrease accidents in the factories after the safety devices had been put on, that they would have to do some real educational work among the men. In other words, they would have to get the men interested in looking after their own interests. It depended on the men and those with whom they were associated, after putting the safety devices in the factory, it depended on the men to eliminate the accidents.

That is also true on the streets. I see the City of Detroit has a big campaign on for safety on our streets. It is a wonderful thing. If we are going to reduce accidents we have got to get the people themselves interested. The people have got to do it. We cannot do it for them, it is physically impossible. We cannot reduce death rates unless we get the people interested themselves. We can build up ever so fine a

public health organization, the finest in the world, and we can do all the things that ever have been known in the public health world, and yet we will fall down unless we get the people interested themselves. The people have got to be interested in doing the things for themselves. Until they do, we will not reduce death rates as much as we wish to.

We have got to get the parent interested in his child definitely, not in a superficial way, but we have got to get right to the parents, as Dr. Kiefer said, through the nurse. I think a better way is through the school. I wish Dr. Kiefer was here, I see he has left.

I believe the better way is through the schools, but that doesn't mean at all that I underestimate the value of the nurse. It is mighty valuable. Take my own boy as an example. He comes home, and he said my teacher says this today, and he goes to his mother and he says my teacher said this today. Schools have a wonderful influence on children, and the child believes it, and because the child believes it the parent is likely to believe it. I believe if we can go into our schools and teach the children these things, and the child brings it home to the parents, that the average parents will believe it quicker than if you go directly to the parents and say so.

The safety first movement is carried on through the schools to a large extent, at least they are recognizing the value of teaching the children safety first, and the children bring it home to the parents, and what the child brings home to the parents sticks much quicker than when you bring it to them directly. Public health works indirectly in many ways. We have got to do things in a roundabout way, we get the results indirectly rather than directly, and the indirect method is more effective very frequently.

I wish I had prepared a paper on this thing, and then I could have stated my points a little bit better than I have.

THE CHAIRMAN: Are there any further remarks? There was something brought up about health officers being physicians. I think that time will come under the township system.

DR. NAGLE: I meant to have said in all villages. I didn't mean in the counties themselves.

THE CHAIRMAN: There are so many health officers, 1400 of them in the state and they are too far from the villages where there are physicians maintained.

I don't think there is anything further to

bring up before this section. I hope that we can make this section a permanent part of the state meeting.

(Adjournment.)

DIFFERENTIAL DIAGNOSTIC PROBLEMS IN PSYCHOSES ASSOCIATED WITH INFECTIOUS DISEASES.*

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To one who has had little more than even a minimum of experience in neuro-psychiatric practice, the past several months has furnished frequent cases in which it was difficult to differentiate psychoses associated with infectious diseases from certain well recognized psychoses such as the alcoholic types, dementia praecox, hysteria and manic depressive insanity. This difficulty becomes all the more marked when the true psychoses are seen in relatively mild forms, but in the acute stages, and is principally due to the fact that there are certain symptoms or groups of symptoms common to both the true psychosis, and to the psychosis associated with infectious diseases. For brevity's sake I shall limit myself to two sub-groups of psychoses associated with somatic diseases: one the so-called "toxic-deleria" which run a course parallel with the febrile stages of the somatic condition; the other the so-called "post-infectious psychoses" which appear during the period of convalescence. Either type is evidently due to some interference with nutritional processes in the central nervous system or to poisons or toxins. The clinical pictures in the aggregate are much the same for both groups and include: unclearness, accelerated psychomotor activity, incoherent or disordered flow of thought, depression, hallucinations, catatonic symptoms, stupor, irritability, and paranoid tendencies. Occasionally rather marked neurological abnormalities also add to the difficulties. Some of us are so accustomed to associate emotional depression with the depressed phase of manic-depressive insanity, or incoherent thought and hallucinations with dementia praecox, or hallucinosis and paranoid tendencies with alcoholic psychoses, that it is not altogether academic to say that is for this reason that we have difficulty in differential diagnoses. The difficulty is further increased if a true psychosis is precipitated by an

*Read before the Detroit Neurological Society at its annual meeting at Ann Arbor, April 10, 1919.

infectious disease and runs a long course after the somatic condition has cleared up. For these several reasons it is frequently almost impossible to be cock-sure about a diagnosis particularly in the earlier stages of the psychotic cases or of the associated psychoses.

Moreover, it is often quite difficult to differentiate hysteria from dementia praecox, or manic depressive insanity with schizophrenic features from dementia praecox. All of these difficulties may arise out of the fact already noted that certain symptoms, or symptom complexes are common to these various mental disorders, but I am inclined to think that they more frequently result from the fact that there is no generally accepted concept of the very nature itself of the so-called disease entity Dementia Praecox. Leaders in neuro-psychiatry have advanced almost every conceivable etiology and pathogenicity for this disease: there are those who emphasize the psychopathological approach with emphasis on the personality in its determining the trends the disease may take after it is once precipitated; then there are those who emphasize the physiopathological changes such as tremors, reflex changes and vasomotor disturbances with emphasis on some imbalance of functions of the ductless glands. Then there are the advocates of organic disease of the brain with definite anatomical changes of brain substance as the true etiology: it may be microscopic lesions in certain layers of the cortex; it may be brain atrophy, or thalamic gliosis; or finally it may be certain affections of the basal ganglia. However confusing this varied state of high opinion may be, we must accept some criteria for guidance in a disease entity which, uncomplicated, presents fairly clear clinical pictures. The mental mechanisms are fairly well recognized and are well described by Meyer, Kraepelin, and Tanzi. The latter says, "the fundamental symptom of the patient suffering from dementia praecox (is) stolidity of conduct (disorder of) intelligence not so much by what he says and thinks as by what he does; even when he expresses and seemingly thinks something contradictory, absurd or foolish, the unprejudiced observer easily perceives that the patient is not faithfully conveying his own thoughts, but is to all appearances falsifying them purposefully from ostentation, or owing to an involuntary treachery on the part of the volitional function." Kraepelin emphasizes the "dementia in which the faculty of comprehension and the recollection of knowledge previously acquired are much less affected than the judgement and especially than the emotional

impulses and the acts of volition which stand in close relation to those impulses." For purposes of present discussion Meyer's definition seems most helpful. It includes "those types of defect and deterioration which show the existence or development of fundamental discrepancies between thought and reaction, defects of interest and affectively with oddities; dreamy fantastic or hysteroid or psychasthenoid reactions, with a feeling of being forced, of peculiar unnatural interference with thought, frequently with paranoid, catatonic or scattered tantrums or episodes."¹

If these "types of defect" can be established as existing in a given case some time before the onset of an infectious disease, or persisting long after a reasonable period of convalescence, one is safe, in most instances, in making a diagnosis of dementia praecox. If these defects are absent before or after the infectious disease, the case is apt to be one of the psychoses associated with somatic infectious disorders. An absence of the history of alcoholism helps us rule out alcoholic psychoses. Sensory stigmata, amnesic fugues, functional paralyses, etc., aid us in differentiating hysteria; but many individual cases present difficulties in diagnosis that can hardly be overcome. The following brief case histories show some of the problems of differential diagnosis:

CASE I. Refer. No. 622. C. Male. Age 22. University Instructor.

Family History and Personal History negative for nervous and mental diseases. The patient was referred to us on October 7, 1918, from Contagious Ward, diagnosis there "Influenza."

Mental examination showed the following:

1. General appearance and attitude: Hectic appearance, apprehensive and perplexed mood. Careless of person. Bed clothes disordered.
2. Increased psychomotor activity with purposeless movements of extremities and picking at bed-covers. Pressure of speech.
3. Distractibility of attention. The patient moved about restlessly and noticed various sounds and movements about him during the entire interview.
4. Stream of thought markedly disturbed: inconsequential answers. Upon being asked to pronounce the word "electricity," he replied, "I never had you in electricity."
5. Thinking processes disturbed: Failure and easy fatigability on attempts to give the successive sevens' test.
6. Partial disorientation. He knew he was in Ann Arbor but when asked to state the nature of the building he was in (Contagious Ward), he replied: "This is not 109 Ingalls Street (his rooming place). It is too warm for 109 N. Ingalls Street." When asked what building he was in he said, "It

1. Michael Osnato, Review of Pathogenesis of Dementia Praecox. *Am. Journal of Insanity*. January, 1919, Vol. LXXV. No. 3, p. 411-433.

looks like an auto when I saw it." He did not recognize persons about him, but gave the month and day correctly though not the date.

7. Content of Thought. The patient had both visual and auditory hallucinations. He was constantly seeing terrifying sights, particularly ugly animals, and hearing strange and disturbing sounds. He thought the nurses were trying to poison him.

Diagnosis.—Toxic delirium, accompanying influenza, in which the chief symptoms are delirium marked by clouding of consciousness, hallucinations, delusions and anxious excitement.

CASE II. I. W. R. State Psychopathic Hospital. Service No. 51. Kalamazoo State Hospital State Hospital Service 12902. Male, Age 76. Occupation, farmer.

Family History.—Father drank moderately. Mother died of apoplexy at 68. Two brothers died of cancer. Mother showed slight abnormal mental symptoms before death. All brothers drank moderately.

Make-up.—Early life uneventful. Common school education. Soldier at eighteen in Civil War. Happily married. Drank steadily for thirty-five years, about a quart of whiskey a week, and frequently intoxicated.

Previous Medical History.—No serious illnesses until the fall of 1905 when the patient was thrown from a wagon sustaining a compound fracture of the femur. Suppuration necessitated surgical intervention. Patient remained in bed twenty weeks. During this period alcohol of all kinds denied by attending physician and family. Mental symptoms appeared in March, 1906, following surgical operation. Patient became negativistic or unclear refusing food and developing the delusion that all members of his family would starve. Gradually became violent necessitating commitment to the State Psychopathic Hospital where he was admitted May 10, 1906. His residence there covered a period of eighteen weeks.

Course at Psychopathic Hospital.—Unable to walk unaided. Sinus in leg dressed daily. Catheterization necessary in May during a period of forty-eight hours. X-ray showed poor union. Leg was put in a plaster cast. Unable to walk unaided before discharge on September 22, 1906. Mental condition in resumé showed; slow reaction to questions, memory defect, disorientation except for city, attention difficult to hold, partial unclearness and confusion with incoherent mumbling speech, sleep impairment, and necessity of mechanical feeding in June. Diagnosis at time of discharge: Senile Dementia, with agitated depression and history of chronic alcoholism.

Course During Interval of Five Years Before Admission to Kalamazoo State Hospital.—Resistive at first refusing to eat at various intervals, emaciated. Although he refused to eat in the presence of others if he were left alone at table, would consume large quantities of food, and then would go to pantry for more. Physical condition grew steadily better, but mentally he remained peculiar, frequently refusing all conversation. Developed the delusion that the hired girl was getting all the money and that the family was going to ruin. Worked at intervals about the farm. Rarely or never disoriented for persons. In the summer of 1911 became vicious at times and attempted violence on his wife and the

hired man. Committed to Kalamazoo State Hospital December 7, 1911.

Course at Kalamazoo. Physical and Neurological Examinations.—Negative except for the following: Suspicion of mitral regurgitation and murmur, radial pulse of 106, absence of knee jerk on the right (the injured side), and failure to obtain the right cremasteric reflex and the abdominal reflex.

Clinical Course.—Inflammation of the right leg below knee noticeable a week after admission. From December 18 to January 26, variations in temperature, frequently elevated, 99.6 to 105 degrees. Tonsillitis existed when temperature was 105 degrees. Incision at site of old injury made on January 24, 1912, and on September 10, 1913, with evacuation of pus on both occasions. Occasionally untidy and steadily growing weaker until time of death on November 6, 1918. As late as August 5, 1918, slight discharge of pus from the leg in the right popliteal space. April 11, 1917, Wassermann on the blood negative.

Mental Condition While at Kalamazoo.—At time of admission: Resistive, extreme clouding of consciousness, disoriented for time and place, somatic delusions, memory disturbances, depressed, and untidy in habits. Later Course: Delusions of food being poisoned, nihilistic ideas expressed at times, occasionally untidy and resistive, irritable and suspicious. Definite hallucinations not obtained.

Diagnosed as a case of Senile Dementia with history of chronic alcoholism.

Post Mortem Examinations.—1. Gross Pathological Findings: Old surgical scars on right leg, fracture of right femur, slight sclerosis of aorta with dilatation of the arch, myo-endocarditis, chronic diffuse nephritis, congestion of the dura, leptomeningitis, severe internal hydrocephalus, slight patches of arteriosclerosis of the vessels of the pia and at junction of carotid and Sylvian arteries, and cystic choroid plexus.²

2. Summary of histopathological findings: "The alterations in the nerve tissues are so slight that they do not justify a diagnosis of any sort, except, perhaps, a very slight arteriosclerosis."³

"The absence of the plaques and the perfect condition of the nerve fibrils, and the moderate fatty degeneration involving the glia to a very slight extent would negative a diagnosis, on a pathological basis, of Dementia Senilis."³

Comment.—The above case is presented in detail because it offers the opportunity of following it through from the first appearance of the mental symptoms to the period of necropsy with subsequent gross and microscopic pathological findings. How difficult of diagnosis such cases are is evident from the fact that it was regarded clinically by the staffs of the State Psychopathic, and the Kalamazoo State Hospitals as primarily one of senile dementia, complicated with chronic alcoholism. The neuropathology would rule out either of these. This forces us to a consideration of a psychosis asso-

2. Gross pathological findings reported by courtesy of Dr. Eva Rawlings of Kalamazoo, and Dr. Adeline Gurd, Ann Arbor. Histopathological findings by courtesy of Dr. Adeline Gurd.

3. Dr. Adeline Gurd.

ciated with infectious disease. The mental symptoms did not appear until some time after a focal infection at the site of the fractured femur just above the right knee posteriorly. For thirteen years this site was either a healed over pocket of infection or a discharging sinus. During the periods of comparative physical recovery, the patient improved mentally. With the exacerbation of the infected condition there was a corresponding aggravation of mental symptoms. In spite of the alcoholic history, and of the supposed clinical symptoms of senile dementia, histological study of the brain substance showed no evidence of either alcoholic or senile changes. As a consequence it is impossible to rule out a toxic psychosis associated with a focal infection. As for arteriosclerosis, the tissue changes were not severe enough to warrant this diagnosis.

Case I is primarily a problem of the internist relative to diagnosis and treatment. The psychotic features are secondary. Case II is a little different involving the question of whether the psychosis is primary or secondary. It is more difficult than Case I, because of the probable close inter-relation of focal infection and mental symptoms complicated by a history of chronic alcoholism and a clinical picture not unlike dementia senilis.

CASE III. Reference 570. F. H. Female, Age 42. Housewife.

Family History.—One maternal uncle died of some heart complication. The father died of a similar disease at 66. One maternal cousin, insane.

Personal History.—Negative for nervous and mental diseases. Always nervous and jumpy. History of coitus-interruptus.

Present Trouble.—This began in November, 1917, and seems to have been a culmination of several physical let-downs. The illness in November was apparently temporary, but the patient was in bed much of the time until March, 1918. Condition diagnosed by the family physician at that time as "auto-intoxication." Most careful enquiry pointed to articular rheumatism. After March 1, 1918, the patient apparently recovered and nothing unusual was noticed until about the middle of June, 1918. Her conduct became peculiar. She would lock members of the family out of the house. She also expressed delusions of poisoning, had auditory hallucinations, and spoke of electrical influences.

Examination.—She looked about the room in a strange way as if hallucinated and apprehensive. She said, "There seem to be four sides to the house. There are too many names of the same kind in the family," etc. After some hesitation she stated that she preferred to write her difficulties rather than tell them. Thereupon she wrote an incoherent jumble of family names, which seemed in a vague way to trouble her. She was disoriented for time and persons, and performed simple mental processes with difficulty.

Diagnosis at that time (June 26, 1918): "Post-infectious psychosis, following some obscure somatic disease probably articular rheumatism." This diagnosis was confirmed by the course and symptoms of the mental state after the patient entered the hospital. She was discharged as recovered on August 21, 1918, and there is no history of a relapse or recurrence.

The next case is also a post infectious psychosis, but is of added interest because of the psychoneurotic features superadded. In this latter respect it is not unlike Case VIII.

CASE IV: Psychiatric Service 2493. M. S. Female, Age 42, Housewife. Admitted January 31, 1919; Discharged.

Family History.—Mother died at 56 following stroke of apoplexy—no mental deterioration. Father eccentric. One sister probably subnormal mentally. Another sister nervous.

Personal History.—Married late at age of 37. Difficulties with husband over household expenses. Series of misunderstandings between patient's family and husband's family over money matters. Patient feared husband was to give his money to his first wife's children. Family situation kept growing more and more acute.

Present Trouble.—The patient gave birth to a child on February 1, 1918. Since then she has worked harder than ever. About two months previous to the acute onset the patient became more nervous and excited over a piece of property which the husband had purchased on contract, thus preventing her being a party to its sale. On January 28, the patient became dejected and accused Dr. B. (the family physician) of wishing to kill her child. The infant was at that time suffering from influenza, but is now fully recovered. The physician thinks that the patient was also suffering from influenza although he is not quite sure of this. He thinks she had no delirium, but is sure she was depressed. She spoke of something commanding her that she was to take such and such a course of action. She could not carry out any goal idea but constantly returned to her one theme of her child being sick, that it would die and that she herself was not wanted. The husband reports that five or six days previous to this she cried much of the time during the day, and went so far as to get the child's burial clothes ready. Then her crying spells ceased. She refused food and medicine. She was brought to the hospital on January 31, 1919.

Course Here; Physical Examination.—Appearance that of an individual suffering from a mild toxic delirium, although temperature is normal. Axillary and inguinal adenopathy. Tongue thickly coated. Somewhat emaciated.

Neurological Examination (February 11). Bilateral conjunctiva lanesthesia. Distinct hypalgesia over entire body. Epigastric and abdominal reflexes not obtained. Knee and Achilles jerks increased.

Laboratory Examinations.—All negative.

Mental Status.—On admission the patient appeared perplexed and apprehensive, and showed a slight general restlessness for fifteen or sixteen days. After this period all positive neurological findings disappeared and the patient was less confused. On admission sleep disturbed by confused dreams, and

when not sleeping, patient complained of conflicting indistinguishable voices that sound like those of her quarrelling relatives. For the first two weeks the patient was partially unclear, and the stream of thought was frequently incoherent. Replies and remarks were frequently irrelevant such as: "I had a suit case. My tooth-brush is here. Why did they put a comb in my bed?" During this period there were delusions of unreality. She was sure her baby was dead and troublesome auditory hallucinations continued. These disappeared suddenly on the fifteenth or sixteenth day after admission. At the same time all disturbances of memory and thinking also subsided. With this change the patient's mood became slightly elated, and self-accusatory ideas (which had formerly been present) disappeared, and the patient seemed eager to adjust difficulties at home and to resume her domestic duties.

Diagnosis.—Toxic delirium, associated with an infectious disorder, probably influenza, in an individual of hysterical temperament.

Comment.—In view of the family situation prior to the acute illness and in view of the unclear state, and sensory disturbances, there is a suggestion of simple hysteria with unclearness; on the other hand the probability of an infectious somatic disorder complicates the diagnosis. This is favored by the fact that the patient's mental condition cleared up so rapidly after admission to the hospital, and all symptoms of a toxic disorder disappeared. The inter-relation between the physical disorder that had existed, and the previous difficult family situation had its evident psychic effect and consequently gives us a mixture of two conditions noted in the diagnosis.

CASE V. Psychiatric Service 2474. Male F. R. Age 24. Transferred to us from Contagious Ward because of over-active conduct.

Family History.—No previous serious illness. Attended school in Manilla, Philippine Islands, where he received his credentials for admission to the University of Michigan in October, 1918.

Present Trouble.—About Christmas time 1918, patient contracted influenza which was later complicated by pneumonia. He was treated in the Contagious Ward. After the fever subsided the patient made steady recovery. Then he began to show extreme restlessness and confusion. He was unclear, over-active, and apparently hallucinated. There were intervals of apparent normality. He was transferred to this ward and the case was first regarded as a post-influenzal psychosis. Examinations physical and neurological, could not be made because of the patient's extreme over-activity. Laboratory Examinations all negative. Mental Examination and Observation on the wards later left no doubt that we were dealing with a true psychosis. The chief symptoms were increased psychomotor activity, pressure of speech, flight of ideas, and distractibility. He was frequently decorative, at other times denuding or destructive, and frequently exhibited emotional instability. There were occasional mild expansive delusions and irritability. The

warm continuous bath and tincture of opium were effective.

Diagnosis.—Manic Depressive Insanity, Manic Phase, precipitated by and following influenza and pneumonia. The patient was discharged as recovered about two months after admission.

The chief point of interest here is that we are dealing with a true psychosis, precipitated by an infectious disease, and not a post-infectious mental condition. Diagnosis further confirmed by personal history of two or three hypomanic attacks annually for the past several years.

CASE VI. E. H. Psychiatric Service 2573. Male, Age 35. Steam Fitter and Plumber.

Family History.—Denied or unknown. Father is reported as having a high blood pressure but able to work daily. Steadily but moderately alcoholic. Several uncles on both sides of the house steadily alcoholic.

Make-up.—Somewhat retiring and seclusive although he is a member of a number of fraternal organizations; rather sensitive and difficult to become acquainted with, although for a few individuals he shows extreme attachment; steady worker; moderately but steadily alcoholic from seventeenth to thirtieth year. Married at 33.

Previous Medical History.—No history of serious physical illnesses or operations. About a year ago the patient expressed paranoid ideas thinking that his employer in the Ford Eagle Plant regarded him as a German spy. This idea was retained for a long period of time.

Present Trouble.—Last December the patient had influenza, lasting about two weeks. He returned to work before fully recovering from the effects of this illness. While at work he complained of indefinite pains in his head and lungs and the feeling of fear and tremor referred to the sternal region. Since this illness unstable emotionally and inclined to romancing over supposed serious accidents at the plant where he was working. Recently auditory hallucinations and ideas of reference. He has heard mysterious knockings on the walls, and would sit in the corner of a street car because he felt passengers were gazing at him. Within the past five weeks delusions that his wife and mother were trying to poison him. He has taken drugs from the house to local pharmacists to ascertain their nature.

Course Here.—Physical Examination: Negative except for certain sounds in the right pulmonary apex, somewhat suggestive of pulmonary tuberculosis. X-ray, however, is reported as negative for tuberculosis.

Neurological Examination.—Left pupil slightly irregular; right pupil reacts slightly to light; bilateral conjunctival anesthesia; marked intention tremor of the hands, fingers and arms on the F. F. T. Marked hypalgesia of the entire body amounting almost to an analgesia over the forearms. Laboratory Examinations all negative.

Mental Condition Here.—On admission the patient was somewhat suspicious in his attitude and accessible although he was apparently superficial in his narrative, and evasive. His manner suggested either an intellectual deficiency or the unnaturalness so frequently seen in cases of Dementia

Praecox. His manner was frequently light as well as his mood, and both out of harmony with the situation, and seemed to be an over-compensation for what he was apparently trying to cover up. Closer interview and questioning confirmed this, and brought out the following content of thought: Chiefly marital infidelity on the part of his wife, and earlier ideas of reference and persecution; personal ability to "see things at a distance." The patient asked for an interview a number of times but seemed to get nowhere. Finally he said, "I have a secret I wish to tell you. While at the Receiving Hospital in Detroit I kept everything from the staff and have been doing the same thing here, but I am afraid I cannot carry it through. My wife was unfaithful. My evidence is, just before coming here I called her up over the telephone, and without recognizing my voice she said, 'Is this Joe or Charlie?' One is a Ford man. That sort of thing had been going for about two months. I got evidence but not enough for court proceedings. I told her things were not right and she said, 'I'll put you where the dogs won't bother you.' She meant where nobody could get into touch with me. She used to stand at her window and look down with the shades of her window drawn. I could see what she was doing through a mirror but not to whom she was signalling. Her actions even during the day time showed that something wrong was going on. She was pink under the eyes. You know what that means (sexual significance). I had no other kind of evidence. We broke up housekeeping. She had a sign at the window marked 'for sale.' It was taken down when I came back. I thought she was selling out everything and 'beating it' with Joe or Charlie."

The patient is evasive when asked if anybody tried to poison him. He admits sending a bottle to the Board of Health. This was not returned to him. "At times I heard her in the kitchen stirring things in a pitcher. She never did that before, she was always prompt at meal time."

The patient then asks the physician to go with him to Detroit to get his brother-in-law on the telephone where he has a switch-board, and then permit him, (the patient) to call up his wife. "She doesn't know my voice. She thinks I am here. I will represent I am Charlie or Joe and thus have a chance to make a date 'on the going to bed stuff,' and see if she falls for it. I'll then get a woman detective and let her run it down. If I don't get it straightened, in time it will ruin me. I'd like her if she would cut out this monkey stuff. My father was against the match but I don't want her family to know anything except the brother-in-law I spoke of. It would kill her oldest sister who thinks the sun rises and sets in me."

The patient then reverts to his suspicions dating back to over a year ago when he imagined he was being taken for a German spy, and says that he has had no other trouble except with his wife, and that his one desire is to know who Joe and Charlie are. He then returns to his residence at the Receiving Hospital where he says, he was playing a part. "I had to do this or kill my own goat."

The patient then makes a more bold statement saying, "I know she has been keeping up relations with Joe and Charlie since I have been here. I was presented with the sensation that there were two

rooms, one like a court room, the other a bright room where people were dancing and having a high old time. I have the power of seeing things at a distance. In the court room I saw Joe and Charlie get out and go away into the dancing room. In the dancing room I looked in at the door and only saw a crowd of people. At home I have seen two people leaving at day-break." The patient says he is sure she has been unfaithful to him.

This note on the patient's mental condition was made on May 15. The physician suggested to the patient that he leave the case in the physician's hands and allow him to handle the situation, and if there was anything in it the physician would find it out. Since that time the patient has been visited twice by his wife. On the first visit he was still somewhat suspicious, but on the second visit this had apparently disappeared.

Today, June 9, he states that from the moment the physician said he would handle the situation he was sure that his wife had stopped all of her queer actions, and he wishes to look upon the things as completely of the past and forgotten.

He has enough insight to see that his father and mother are taking the part of his wife and he believes it would be unwise to pursue the matter any further.

The manner of the patient is still somewhat unnatural. He laughs rather light-heartedly in referring to certain things. Will not quite admit that he does not still have the power to "see things at a distance" but believes that he had better "cut out that stuff."

Comment.—The case first looked like a simple post-infectious psychosis following influenza, but on close study of the case, particularly with reference to the patient's paranoid ideas for a year preceding his influenza, and because of the persistence of this paranoid tendency, particularly with reference to his wife, we seem rather to have a psychosis, not post-infectious, but a frank psychosis precipitated by a physical let-down. The features are those of paranoid Dementia Praecox, which is suggested by the paranoid tendency existing long before the influenza, and by the ideas of marital infidelity and telepathic ideas, which the patient still insists he has. This diagnosis is also confirmed by the patient's general manner. Alcoholic paranoia is with difficulty ruled out because of the history of long standing and steady alcoholism; this was confined, however, to beer drinking, on an average of a glass or two a day. While the patient's reactions do not appear to be those of alcoholism it is difficult to rule out the influence that it may have on the general picture. While on the whole it looks like a case of Dementia Praecox this should by no means be regarded as an absolute diagnosis.

CASE VII. Psychiatric Service 2528, H. T. Female, Age 27, Occupation, Housemaid.

Family History.—The father and mother separat-

ed. Mother is a prostitute and a bad woman in every respect according to the anamnesis furnished by the State Industrial Home for Girls at Adrian. On one occasion she threatened the prosecutor and herself.

Personal History.—The patient was admitted to the State Industrial School in 1904 and discharged in 1910. She was reported as willful and vicious at times, and attended school only when compelled to do so. This was before admission. Her record at the State Industrial School is that of a good girl unusually quiet, capable and trusty. She had the usual diseases of childhood with good recovery. She had frequent pharyngitis and tonsillitis during childhood. Headaches about once a month to the twenty-fifth year. For the past seven years there has been pain over the right ovary at the beginning of the menstrual periods. Two and a half years ago she had a severe attack of tonsillitis, lasting about three days with elevated temperature. Two years ago while working at the Belding Silk Factory the patient became very nervous. As this "worked on her" it affected, according to her own account, her right knee so seriously that she could not keep up her work. The knee "bothered" her for nearly a year and a half. The pains in the knee suddenly got better, but became more intense in the right inguinal region. She came to the Homeopathic Hospital for treatment for this condition on February 23, 1919. Two days later she insisted on leaving the Homeopathic Hospital against advice, wandered about the town for several hours and was finally brought back by a Y. W. C. A. worker. The patient had fifty dollars on her person when she left the hospital. It was gone upon her return. A few days later she developed more marked mental symptoms, was referred to the Psychopathic Hospital and admitted on March 14.

Course Here. Physical Examination.—Negative except for apical abscess of a right molar which developed two weeks after admission.

Gynecological Examination.—Negative except for pruritis vulvae.

Neurological Examinations.—Negative.

Laboratory Examinations.—Negative except for a number of W. B. C. in the urine, probably from the pruritis. Blood count at the Homeopathic Hospital February 23, 1919, 13,600 WBC. Blood count here negative.

Mental Examination.—Ever since admission to the hospital the patient has had the appearance of being perplexed, apprehensive and unclear. In view of this attitude and of the subjective account of "knee trouble" it was at first thought that we were dealing with a case of post-infectious psychosis following articular rheumatism. Communication with the Homeopathic Hospital and with the family physician elicited no history, however, of any recent illness or febrile condition. Routine mental examination brought out the following points:

1. General appearance that of mild apprehension and slight unclearness. The patient tries to cooperate, however, at all times. She is quite respectful, and accessible, though slow in her movements and in her speech. She frequently looks at the examiner in a perplexed way, gazes about the room as if hallucinated, and appears to be in a dream state.

2. All movements, as well as speech, are slow, either the result of psychomotor retardation or of blocking. Occasionally she replies to a question several minutes after it has been asked, and seems especially eager to reply if the examiner prepares to leave the room.

3. Sleep: The patient complains of not sleeping well. She reports frequent dreams, but when questioned as to whether she is sure they are dreams, she hesitates and says, "Perhaps ——— I think I thought it last night." Her "dreams" are of great significance. The following is typical: "I dreamed I went somewhere and saw men and automobiles. One man had dark eyes and was a German. I saw two babies; one was asleep, and the other wasn't; one was crying and the other had its eyes open. Then I went into the house and I seemed to have blue eyes and light hair (the patient has dark hair and eyes) and I was glad and happy about it." It is this dream (?) that she thinks she "thought."

4. Comprehension: is not disturbed, but the patient's attention frequently lags seemingly because she is lost in her own abstractions.

5. Stream of thought shows almost as typical a blocking as it is possible to see. She starts to reply to a question, seems to have forgotten it, hesitates, begins again, sighs, and when the examiner asks another question she replies to the first. It frequently resolves itself into an ambivalence or ambivalency. This will be seen in the narrative of the patient. It is the same in respect to purposeful movements. She begins, then stops. At times she has had a retention of urine. When taken to the toilet she sits for a long time, says she cannot pass her water, but wishes instead to be allowed to defecate.

6. The Content of Thought shows two interesting features: auditory hallucinations, and desire, as she puts it, "to have a man." About this desire "to have a man" is woven an extremely interesting sexual fantasy. In her own words, "A year or two ago I used to masturbate. I felt sorry afterwards and thought it was wrong. Then I used to think I wanted to get married, but I never found the right man. Some wanted me, but I didn't like them. Before my knee hurt me at Belding I decided to go West; I felt nervous. I thought I would go and get a man. I went to Colorado, Denver, and worked at a restaurant. One day a man came in. I cared for him, perhaps he cared for me. He didn't say anything, but he wrote me after I came back. I thought I wanted to marry him. I liked the looks of him. I thought he was 36, but he was really 51. Now, that is strange, isn't it?"

At another interview the patient states that eight and a half years ago her father used to come to her and place his genitals against hers, but never made intromission. She would handle his parts. Three years ago she did the same thing with a cousin, and again for three or four times with her father last September. (Gynecological examination shows imperforate hymen).

While at the Homeopathic Hospital the patient made a suicidal attempt. When asked the reason she answered, "Because I was afraid I couldn't see my father again. I wanted to tell him I was sorry." Also, while at the Homeopathic Hospital she says she heard the voices of girls saying, "You like your father, you slept with him, and I thought that was

wrong because that is the way married folks do. There I said strange things such as "Father pissed in it, and mother shit in it." My father was there when I said those things. That is why I want him to come to tell him I am sorry."

At this hospital she has heard voices say, "You cheated, because you liked your father." Then the patient says in comment, "I liked my father because I liked everyone, I guess." Then she looks questioningly at the examiner asking "That's all right to like everyone?" Then breaks off rather abruptly and says, "But you can't like everyone. Then the voices said they were going to cheat me; they meant they were going to prevent me going out with a gentleman friend, Americans I guess, not Germans." When asked how one can hear voices she replies, "I hear voices in my mind. I don't know as I hear voices, but I think I hear them."

7. Orientation. The patient is oriented for person and place, but only partially oriented for time, missing the day and date, but giving the year and month.

8. Narrative. This was given in the form of the patient's own anamnesis. When questioned about incidents of the day when she left the Homeopathic Hospital, she states that she left the hospital about 11 a. m. and walked steadily until about 2 p. m. It seemed as though the doctors were after me to see how far I could walk to test my heart. I went to the Ann Arbor restaurant for dinner. Once I went into a shoe store to send a telegram; then to a grocery store; I was looking for the depot to send the telegram to my father. When questioned about her money, she says she gave it to her father. She becomes somewhat confused at this point, knowing her father was not in the city, but insists that she gave it to no other man. After lunch she returned to the Y. W. C. A., and says while there she felt sick, as though she were going to die. It was after this that she was returned to the Homeopathic Hospital.

9. Insight: Is not perfect. She knows she is nervous and worried, but she has no complaint except "a pain in the side." When asked why she looks about the room in so strange a way she answers, "I feel as if something were on my head drawing it, a machine of some kind." She then looks at her hands and says, "I am not clean, yes I am clean, but I am not clean inside. My blood is gone. Sometimes I have quite a bit, and then I don't have very much. I think it is caked." (Do you feel changed?) "Not until last night when I thought I had light hair and blue eyes, but I liked them last night. I thought she was a German girl."

10. Ward Notes, April 9, 1919.

The patient is clear, well oriented, knows that the physician has been away a week; gives the day and month correctly; misses the date by two days. She states that the feelings of her head of being drawn as if by a machine have disappeared, and that things seem more real except when she thinks too much. When asked what she thinks she gives a reply that is evidence of auditory hallucinations: "I hear them saying that she is going to have a dirty rotten baby. I can't see how that is." She then looks out of the window in a perplexed way and continues, "I saw a soldier this morning and thought I liked the looks of him. He looked as if he was waiting for something, to see what I was

going to do in the window, but I wasn't. I was going to put the window up. I hear someone say 'throw it,' 'throw it.'" (Throw what?) "A touch of passion I guess. I don't understand that very well. A touch of passion I guess. I don't understand that very well. A touch of passion for children, I guess." When questioned about her somatic complaints she states that she now feels more like herself than when she came into the hospital. She has no pains in the side, "No pains anywhere."

For the past two months there has been no noticeable change in the patient's condition unless it is a slight deterioration. Her manner is more frequently silly and there is frequent unmotivated laughter. She insists that she still hears voices. There is still evidence of blocking. Her replies when she is interviewed come with abruptness and in a choppy manner, with long intervals between questions and answers. The answers are frequently explosive. She has been erotic at all times. She continually says she wants a man to sleep with her and asked the physician if he would not do so. When asked why she laughs when she is touched on the arm she replies, "Because it gives me pleasure." There have been one or two brief episodes of excitement when she has imagined that the Germans and Catholics are against her.

Diagnosis.—The diagnosis in this case is one of the most difficult of all the cases considered. She seems to present a picture and difficulties quite similar to one or two of the seven cases presented by Hoch and Kerby in the April number, 1919, of the *Archives of Neurology and Psychiatry* under the caption, "A Clinical Study of Psychoses Characterized by Distressed Perplexity." The principal features in these cases are:

1. Perplexity in facial expression and utterances.
2. Marked distress accompanied either by restlessness or phenomena of inhibition.
3. A feeling of guilt which the patient cannot formulate; which is projected in the form of accusatory hallucinations against which the patient protests, that is, does not accept.
4. There is often a constitutional basis and the psychosis is frequently of apparently short duration. Quoting Hoch exactly: "As to the clinical position of these cases, it was shown that the reaction as such has a certain relationship to the manic depressive reactions, that features of it, and possibly the pure clinical picture, may occur of a toxic infectious etiology, and also in typical form. It has occurred in a case whose further course was that of Dementia Praecox." It was pointed out that the same is true in the case of the manic and stupor reactions.

Hence the case before us seems to lie between a depression with perplexity; a toxic infectious psychosis with perplexity, and a dementia praecox with perplexity. It is rather hazardous to risk a positive diagnosis at this stage. The history of uncleanliness, however, on the day the patient wandered away from the Homeopathic Hospital and the evidence of fantasies of a sexual nature, with pronounced wish-longings, together with ambivalent tendencies point somewhat strongly to dementia praecox. Whether the perplexity in the case is due to negativistic and agnostic impulses, or whether the perplexity produces what appears to be either retardation or blocking, it is hard to determine. Ex-

cept for the dream (?) in which the patient conceived herself as having light hair and blue eyes, there is no positive evidence of disintegration.

However that may be as the case progressed one could almost see the unfolding of the schizophrenic mechanisms with an effect not unlike the ultra rapid moving picture device which enables one to get the most rapid and complex movements of the athletes' gymnastics. Unlike case six there is no definite evidence yet of progressive deterioration.

Case VIII. Neurological Service. Courtesy of Dr. C. D. Camp. R. G. Female, Age 40, Housewife. Married.

Family History.—Two aunts and uncles have epileptic seizures.

Make-up.—Eighth grade education at fourteen. Somewhat nervous all her life. Given to day dreaming as well as night dreams.

Personal History.—Sick headaches all her life, but not severe enough to confine her to bed. Five years ago they became more severe and have been worse in the last two years.

Present Trouble.—Dates back about two years. Headaches began in forehead involving the back of neck, and lasting as long as five days at a time. During the attack she has photo-phobia; is nauseated and sometimes vomits. She also experiences numbness, but has had no disturbance of visions. She sometimes falls backwards; feels herself "going" but cannot talk. These attacks are only momentary. The headache ceases after her "falling back."

Examination.—Facial expression somewhat epileptic. Teeth show pyorrhea. No paralysis. Considerable medium tremor of extended hands. The pupils react somewhat sluggishly. Anesthesia of the conjunctivae on both sides. Hearing on the left somewhat obtunded. Optic nerve on the right eye pale and deeply cupped.

The above history and examination was made on December 11, 1919. Diagnosis—Migraine.

The patient returned March 20, and states that four weeks ago she was taken sick. Since then she has had nasalized speech. She has become weak and says that she has had tremors of the hands. She is now so weak that she cannot walk alone. No diplopia. She complains of continual sleepiness, being able to sleep at any time and anywhere. The husband states that she falls asleep in a chair. The face is expressionless, rarely winking. Pupils unequal, right being larger than left. Slight bilateral ptosis. She does not draw back either angle of the mouth in showing the teeth. The teeth are dry, gums sore and red. On sound formation the soft palate rises very slightly to the left. There is a marked intention tremor equal on both sides and occasionally a slight tremor at rest. Knee jerks negative. Intention tremors in both legs. Pulse weak, fairly regular, 120 per minute.

Laboratory Examinations.—Lumbar puncture two cells. Carbotic faintly positive. Both phases of the Nonne Apelt test, negative. Reducing substance normal. Blood Wassermann, negative. On two different occasions Spinal Fluid negative. Gold Curve 00011100000.

Ophthalmology reports negative fundus.

X-Ray.—The head negative.

Gynecology Examination.—Negative.

Diagnosis on Second Admission.—Lethargic Encephalitis.

The case was referred to us March 28, 1919. The patient appears apprehensive, restless and slightly emaciated. There is a moderate psychomotor retardation, and marked facial tremors, particularly at either angle of the mouth when the patient is speaking. It is a nasalized speech and different, according to the patient's statement, from what it is when she is well. Handwriting is tremulous. Sleep: The patient states that she dreams a great deal. Before coming here she dreamed of her father coming back to her. She states that she has always liked him better than her mother. Comprehension is unimpaired but there is a slight distractibility of attention. The patient is apprehensive about the outcome of her illness, frequently asking what is the nature of her trouble, and when she can go home.

The chief item of interest in the case is the patient's narrative. She states that shortly after she was married (that was 22 years ago) she wondered if her father would approve of the marriage. Shortly after that he appeared to her as in a vision saying "Babe don't worry." Since that time she has not worried about her marriage. She states that she has always been sexually frigid, and then repeats the account noted by Dr. Camp of fainting spells—that they existed for about three years; they are precipitated by disconcerting or unpleasant situations. Her vomitus is frequently watery. She does not lose consciousness, although everything about her seems dark. During these attacks there is Astasia Abasia, generalized body tremors, globus hystericus and gastric complaints.

She gives a history of having an almost complete aphonia previous to her present illness; that she had nothing but a whispered voice, even though she was not suffering from an ordinary cold.

Last summer, she states, that her mind seemed as if it were outside of her body. She tried to say things but could not. On certain occasions she reports what appear to be auditory hallucinations. She could hear the voices of her son and daughter when she knew they were out of the house or asleep.

Neurological Examination for sensory changes shows tenderness on pressure over erogenous zones. She has a general hyperalgesia. This appears to have come on since her lumbar puncture.

This last case is extremely interesting from several points of view. First of all clinicians and pathologists are not quite agreed on just what the term "lethargic encephalitis" denotes. Saint Martin and Lhermetti⁴ report two cases which they call "primary poliomesen-cephalitis with narcolepsie." They insist that the two fundamental symptoms in this disease represented by these two cases are complete bilateral paralysis of the third nerve, and hypersomnia. For this reason it is to be differentiated from the acute hemorrhagic poliomyelitis of Gayet-Wernicke which show symptoms not found in their cases, symptoms such as mild delirium, unclearness with hallucinations, changes in the reflexes, speech disturbances, mild facial palsies, sometimes even hemiplegias and especially cere-

4. Bull. de la Soc. Med. des Hospitaux, 17 May, 1918.

bellar symptoms such as tremors, ataxia, asynergias, and finally infectious or toxic processes. None of these exist in their two cases which they look upon as non-infectious, non-toxic because of the general condition and very mildly elevated temperature. Hence their cases should not be confused with "lethargic encephalitis" of the human trypanosome where the lesion is more diffuse involving the cortex of both the encephalon and the brain-stem. They also speak of a syndrome, more like a toxic psychosis which deserves the name of "infectious encephalitis."

In the same bulletin under date of May 24, 1918, Marie and Tretiakoff report findings on two autopsied cases as follows:

1. Acute inflammatory process at the level of the isthmus of the encephalon.
2. More marked inflammatory processes in the region of the cerebral peduncles with the superior limit passing through the basal ganglia and the inferior through the lower portion of the bulb.
3. Cord, Cerebral cortex and Cerebellum negative.
4. Lesions primarily in the gray substance of the regions noted with Wallerian degeneration of the fibres.
5. Histopathological (a) H. & E. stain shows ruptured vessels and small hemorrhages with infiltration into the parenchyma. (b) Bielchowsky stain shows that pathological changes attain their maximum at the level of the *locus niger* (section of crus cerebri between the tegmentum and the crista). After this the most pronounced change is a very marked inflammatory process of periventricular gray matter, especially in the region of the nuclei of the third cranial nerves. Marinesco reports three autopsied cases: two of them with lesions in the floor of the fourth ventricle and in the aqueduct of Sylvius; and one with lesions in the cerebellum. He finds a plasma cell infiltration through the parenchyma in addition to that in the perivascular spaces. In these regions the nerve cells are not

affected and thus the disease differs from poliomyelitis. But he does find nerve cell degeneration in the Locus Niger and in the Locus Caeruleus, (pigmented eminence in the floor of the fourth ventricle). He thinks the infection is by way of the lymphatics, the lymph-nodes and the mucous membranes. He too insists on the distinction from the polio-encephalitis of Wernicke.

The case before us is not, then, like the two reported by Saint Martin and Lhermetti as "primary polio-encephalitis with narcolepsie," but because of the neurological findings is more like the so-called "lethargic" cases autopsied by Marie and Tretiakoff. In addition our case presents further diagnostic difficulties in that we have an infectious process with neurological abnormalities in an individual whose past history is that of an hysterical type, and in whom hysterical stigmata still persist. These stigmata rule out consideration of dementia praecox, in spite of the history of hallucinations.

In conclusion, then, it is quite evident, as stated in the opening paragraph that the neuropsychiatrist is confronted with very troublesome problems of differential diagnosis when he meets psychoses associated with infectious diseases which might be mistaken for true psychoses in relatively mild forms, but in the acute stages. Hysteria and Dementia Praecox offer the most troublesome details of the difficulties. Moreover, there are certain obscure cases, such as Case III, which may run a long course, and in which both physical and mental conditions may parallel each other. The danger in such cases seems to be that of over-looking the infectious or toxic element. This particular case reveals the necessity of correlating neuropathological with clinical findings. The same necessity is apparent from what was said under the subject of lethargic encephalitis.

THE TOLL OF THE NURSES.

A sacred constellation of one hundred and eighty-four gold stars on the service flag of the American Red Cross Department of Nursing at Washington is the silent token of the supreme sacrifice made by that number of American nurses. The record is still incomplete and when this roll of honour is finally closed it is probable that the names of fully two hundred American women who have laid their lives on the altar of freedom will have been inscribed upon it.

Death came to American nurses in many forms. Striving against hopeless odds to check the epidemic of influenza that swept over the training camps in this country last fall nearly a hundred nurses themselves succumbed to the scourge. Many more were victims of the disease when it

raged in the war zone. Ministering to the wounded in France other American nurses were killed by Hun ruthlessness in airplane raids.

But the American nurse who gave her life to the cause of Liberty did not die in vain. Into the shadowy beyond there went with her the prayers and murmurs of gratitude of those she succored. High military leaders gave their word of praise and appreciation for faithfulness that never faltered, while in homes saddened by the loss of the loved one there is imperishable pride.

Tuberculin "B. E." (Bacillus Emulsion)—Lederle.
—Marketed in vials containing 1 Cc. For a description of New Tuberculin, see New and Non-official Remedies, 1919, p. 280. Schieffelin and Co., New York.

Minutes of the Fifty-Fourth Annual Meeting of the Michigan State Medical Society at Detroit May 21, 22 and 23, 1919

MINUTES OF THE COUNCIL.

The Annual Meeting of the Council was called to order by the Chairman, Dr. W. J. Kay, at the Hotel Statler, May 20th, at 6:00 P. M.

The following Councilors were present: W. J. Kay, Guy L. Kiefer, L. W. Toles, B. Jackson, W. J. DuBois, W. T. Dodge, A. L. Seeley, W. G. Bird, President Hume, and Secretary pro tem D. Emmett Welsh.

On motion of Dr. Du Bois the minutes of the January meeting were approved. Supported and carried.

Moved by Dr. DuBois and supported by Dr. Bird that the resignation of Dr. F. C. Witter, formerly of Petoskey and Councilor of the Thirteenth District, be accepted inasmuch as Dr. Witter is now a resident of Detroit. Carried.

Dr. Welsh read the following trial balance and report of the number of delinquent members and members in good standing in each county society.

Trial Balance, April 30, 1919.

The Grand Rapids Sav. Bank	\$4,879.05	
Liberty Bond Account	4,500.00	
Bond Account	4,300.00	
Journal Expense	1,669.66	
Society Expense	913.32	
Accounts Receivable	846.33	
Council Expense	184.24	
Reprint Expense	100.80	
Present Worth Account		\$10,739.80
Journal Subscriptions		2,729.54
State Society Dues		1,709.00
Advertising Sales		1,281.84
Defense Fund		626.00
Reprint Sales		183.85
Interest Received		95.12
Oakland County Med. Soc.		17.00
Outside Subscription Sales		10.50
Sale of Extra Journals		.75
	\$17,393.40	\$17,393.40

Number of Delinquent Members and Number of Members in Good Standing.

	O. K.	N. G.
Alpena	None	19
Antrim	2	22
Barry	2	0
Bay	50	9
Benzie	6	1

	O. K.	N. G.
Berrien	23	15
Branch	14	4
Calhoun	96	6
Cass	4	4
Cheboygan	4	1
Chippewa-Luce-Mackinac	24	9
Clinton	19	6
Delta	18	5
Dickinson-Iron	None	19
Eaton	27	10
Genesee	93	13
Gogebic	13	3
Grand Traverse-Leelanau	23	5
Gratiot-Isabella-Clare	24	12
Hillsdale	4	12
Houghton	31	28
Huron	12	6
Ionia	20	10
Ingham	49	28
Jackson	50	5
Kalamazoo	119	19
Kent	148	20
Lapeer	24	4
Lenawee	27	9
Livingston	4	3
Macomb	18	6
Manistee	None	12
Marquette	22	18
Mason	7	3
Mecosta	11	4
Menominee	9	5
Midland	4	5
Monroe	21	5
Montcalm	20	8
Muskegon	48	6
Newaygo	7	2
Oakland	47	7
O. M. C. O. R. O.	5	10
Ontonagon	5	4
Osceola Lake	None	7
Ottawa	22	4
Presque Isle	1	1
Saginaw	51	22
Sanilac	14	3
Schoolcraft	7	None
Shiawassee	10	24
St. Clair	32	21
St. Joseph	2	7
Tri	18	8
Tuscola	18	9
Washtenaw	60	20
Wayne	637	264
	2026	797

2026 includes dues of Doctors in Service which have been paid by County Societies.

797 includes members whose dues for 1919 are not

paid, but whose dues were paid either in 1917 or 1918.

Moved by Dr. Toles and supported by Dr. DuBois that no names of members in the Service who have not paid their dues, be published in the *Journal*. Carried.

A motion was made by Dr. Dodge and supported by Dr. Seeley to print a new revised edition of the Constitution and By-Laws of the State Society, the number to be decided by the Secretary, and the same to be printed in the *Journal*. Carried.

Dr. Welsh read the following reports of contributors and amounts contributed towards the Victory number of the *Journal*.

Contributions From the County Societies to the Victory Number of the Journal.

Bay	\$50.00
Berrien	25.00
Calhoun	50.00
Cheboygan (Personal donation of Doctor C. B. Tweedale of Cheboygan).....	3.00
Chippewa-Luce-Mackinac	25.00
Eaton	28.00
Gratiot-Isabella-Clare	25.00
Grand Traverse-Leelanau	25.00
Genesee	50.00
Hillsdale	25.00
Houghton	25.00
Ingham	50.00
Jackson	50.00
Kalamazoo	50.00
Kent	150.00
Lenawee	25.00
Livingston	20.00
Mecosta	25.00
Monroe	25.00
Montcalm	19.00
Muskegon	50.00
Oceana	10.00
O. M. C. O. R. O.	25.00
Ontonagon	15.00
Ottawa	10.00
Saginaw	50.00
Schoolcraft	7.00
Shiawassee	24.19
St. Clair	50.00
Tuscola	25.00
Washtenaw	50.00
Wayne	200.00
Marquette	50.00
	<hr/>
	\$1,311.19

Donations From the President, Councilors, Past Presidents and Members of the Michigan State Board of Registration in Medicine.

Biddle, A. P.	\$ 5.00
Bird, W. G.	5.00
Buckland, R. S.	5.00
Burr, C. B.	5.00
Cameron, D. A.	5.00
Carstens, J. H.	5.00
Church, S. K.	5.00
Connor, G. L.	5.00

Harison, B. D.	5.00
Holdsworth, F.	5.00
Hornbogen, A. W.	5.00
Hume, A. H.	5.00
Inglis, David	5.00
Jackson, J. B.	5.00
Kay, W. J.	5.00
Kiefer, G. L.	5.00
Kinsman, E. C.	5.00
Lawbaugh, A. E.	5.00
LeFevre, G. L.	5.00
McLaughlin, N.	5.00
McLurg, J.	5.00
Nyland, A.	5.00
Olin, R. M.	5.00
Ostrander, H.	5.00
Peterson, R.	5.00
Sawyer, W. H.	5.00
Seeley, A. L.	5.00
Shipp, W. S.	5.00
Southworth, C. T.	5.00
Stockwell, C. B.	5.00
Tibbals, F. B.	5.00
Toles, L. W.	5.00
Witter, F. C.	5.00
	<hr/>
	\$165.00

Contributions From Hospitals Towards Victory Number of Journal.

Ann Arbor Private Hospital, Ann Arbor ..	\$ 10.00
Bay City Hospital, Bay City	10.00
Butterworth Hospital, Grand Rapids	10.00
Children's Hospital, Detroit	10.00
DeVore Hospital, Grand Rapids	15.00
Grace Hospital, Detroit	10.00
Hackley Hospital, Muskegon	10.00
Harper Hospital, Detroit	20.00
Hurley Hospital, Flint	10.00
Mercy Hospital, Bay City	10.00
Mercy Hospital, Benton Harbor	10.00
Mercy Hospital, Muskegon	10.00
Nichols Memorial Hospital, Battle Creek..	10.00
Petoskey Hospital, Petoskey	10.00
Providence Hospital, Detroit	10.00
Saginaw General Hospital, Saginaw	10.00
Sparrow Hospital, Lansing—Ingham Co.	10.00
St. Mary's Hos., Detroit—Dr. W. Wilson	10.00
St. Mary's Hospital, Grand Rapids	10.00
St. Mary's Hospital, Marquette—A. W. Hornbogen	5.00
St. Mary's Hospital, Saginaw	10.00
St. Joseph's, Menominee	10.00
Woman's Hospital, Saginaw	10.00
	<hr/>
	\$240.00
Blodgett Hospital, Grand Rapids, promised	10.00
	<hr/>
	\$250.00

Total.	
County Societies	\$1,311.19
Hospitals	250.00
Officers	165.00
	<hr/>
	\$1,726.19

Moved by Dr. Seeley and supported by Dr. Jackson that the extra copies of the *Journal* be sold at twenty-five cents per copy, the full page

cuts at three dollars, the group cuts at \$1.50 per individual picture, and a notice of same to be published in the *Journal*.

Motion made by Dr. Hume and supported by Dr. DuBois to give Secretary's stenographer a two hundred dollar honorarium.

Session adjourned.

SECOND SESSION.

The Second session of the Council was called to order at the Hotel Statler Thursday noon, May 22nd.

On motion of Dr. Dodge and supported by Dr. Seeley, Dr. Guy L. Connor was chosen associate editor in Detroit on a salary of fifty dollars per month.

The thanks of the Council were extended to the Wayne County Medical Society and the committee on arrangements for their entertainment, etc. on motion of Dr. Dodge.

Adjourned.

HOUSE OF DELEGATES.

The House of Delegates of the 54th Annual Meeting of the Michigan State Medical Society was called to order at the Hotel Statler, Detroit, at 7:00 P. M., May 20th, 1919, with President Hume presiding.

Roll call.

It was moved and seconded that the minutes of the last meeting as published in the June, 1918, *Journal* be considered read. Carried.

Dr. W. J. Kay: Chairman of Council.

There are two or three things to be brought before the House of Delegates for consideration, not so much to act upon but for the men present to correct, and one of these conditions is the present membership of the State Society. The financial condition of the Society is good. The present worth account on January 1, 1919 was \$10,739.80. The membership is smaller than it was in 1918—797 less. About eight hundred Michigan men went into the Service. The dues of those members were to be remitted by the County Societies. In order to keep square with the post office department, the County Societies took it upon themselves to pay to the State Society the subscription price of \$1.50 for the men in the Service. Some of the County Societies have done that and some have not. In our by-laws we have a resolution stating that all members should be dropped after April 1st for non payment of their dues. We did not enforce that law this year because it would be

unfair to the men in Service. You representatives of the County Societies should go home and tackle this matter good and strong. A large portion of these delinquents are men who are in the Service whose *Journal* subscriptions have not been paid. They must be paid by somebody to keep square with the Government, otherwise we will be violating the postal regulations.

Another matter is the resignation of Dr. F. C. Witter on account of his removal to Detroit. It will be necessary to elect a new Councilor of the 13th District.

President Hume:

I am glad that Dr. Kay told you something about the condition of your Society and mine. You came here as delegates to represent your County Medical Societies, and also to carry back to your Societies any message that comes from the State Society that should come to your county societies. You understand this: that a large number of our members' dues are in arrears. You have not paid what you agreed to pay for the men in the Service. It is your duty to go home and see that their dues are paid. You promised to do it and you must do it. These men must not be suspended. We cannot send them their *Journals* unless their dues are paid. Take this to Jarshua. This applies to the larger county societies as well as the smaller. This is a matter with which you should become thoroughly acquainted because you are responsible for the management of this society. What the Secretary-Editor's office has done in way of arranging for this meeting and the Victory number of the *Journal* is a credit to the Society and a pride to each one of you. Without being mercenary a Victory copy of the *Journal* may be had for twenty-five cents.

Dr. F. B. Walker moved that the report of the Council be accepted. Supported and carried.

Dr. Hornbogen reported for our Delegates to the American Medical Association.

Report of the Committee on Civic and Industrial Relation. Dr. F. B. Walker:

This committee was appointed about two years ago, and in 1916 and 1917 this committee met in the winter and spring in Detroit and was doing business gathering some facts together with the idea of making a report, but as you remember the meeting place and time were changed and I do not know if any committee reports were made during last year. Since coming home I have corresponded with Dr. Peter-

son, knowing he was in the State during the war period and asked him what had been done, but regret to say practically nothing has been done. We were getting information two years ago not only from our own States but from abroad. Everything is in a turmoil and confusion and it will take another year to make anything definite. Something has been done in some of the States as Federal reports will show, even in our own State but no definite report can be made at this time.

President Hume:

This is a good report and it shows that the committee has been as active as war conditions would permit it to be. Your report will be placed on file.

The following nominations were made for the personnel of the Nominating Committee:

C. D. Brooks, Detroit, 1st District.

A. W. Hornbogen, Marquette, 12th District.

J. D. Brooks, Grandville, 5th District.

E. J. Witt, St. Joseph, 3rd District.

A. E. West, Kalamazoo, 4th District.

It was moved and supported that the nominations be closed and a unanimous vote be cast for the above mentioned candidates for the nominating committee. Carried.

The President appointed the following business Committee:

C. H. Baker, Bay City Bay

F. E. Luton, St. Johns Clinton

A. V. Wenger, Grand Rapids Kent

C. McCormick, Owosso Shiawassee

C. Brooks, Detroit Wayne

Adjourned.

SECOND SESSION.

The second session of the House of Delegates was called to order at the Hotel Statler at 9 A. M. by the President, with a majority of the delegates present.

President Hume: If there are no objections we will let the roll call take the place of the credentials.

A request was made that the question of the Wayne County closed hospitals be taken up by the business committee. Referred to the Business Committee.

President Hume stated that there would be a meeting of the Committee on Nominations after the Meeting of the House of Delegates.

Adjourned.

THIRD SESSION.

The third session of the House of Delegates was called to order by President Hume at 8

A. M. at the Hotel Statler Thursday, May 22.
Roll Call.

The business committee through its chairman submitted the following report:

Mr. Chairman and Members of the House of Delegates of the Michigan State Medical Society:

Pursuant to action taken by your Business Committee the following resolutions are submitted for your consideration.

1. Be It Resolved—That The Michigan State Medical Society place itself on record as opposed to "Compulsory Health Insurance" and that a copy of this resolution be forwarded to the proper committee of the House of Delegates of the American Medical Association to make it useful in combating legislation for "Compulsory Health Insurance."

2. Be It Resolved—That all papers read before the State Medical Society become the property of the State Journal for publication and that the author be entitled to 100 reprints free of charge.

Be It Further Resolved—That all papers read before the several county societies become the property of the county society before which they are read and be made available for publication in the State Journal and that the author be entitled to 100 reprints free of charge.

3. Be It Resolved—That the Secretary of the State Society submit to the county societies bills covering the amount of delinquent subscriptions of members in military service; as promised by such societies.

4. Be It Resolved—That it is the sense of this Society that all public and semi-public hospitals should be open to any reputable and legally qualified physician and his patients. That this be referred to a Special Committee, appointed by the President to report at next annual meeting.

C. H. Baker, Chairman.
Dr. Brooks,
Dr. Robinson,
Dr. Luton,
Dr. A. V. Wenger.

It was moved and seconded that we have published in the *Journal* the duties and necessary steps of the County Society medico-legal representative. Carried.

A motion was made and supported that the railroad fare and essential hotel expenses be paid by the State Society of the delegates to the American Medical Association. Carried.

The nominating committee presented the following report:

OFFICERS.

1st Vice-Pres.—Angus McLean, Detroit.

2nd Vice-Pres.—C. N. Sowers, Benton Harbor.

3rd Vice-Pres.—H. E. Randall, Flint.

4th Vice-Pres.—P. D. MacNaughton, Calumet.

Councilor.

W. H. Parks, East Jordan, 13th District.
1920 Meeting Place: Kalamazoo.

The Secretary on motion cast the unanimous vote for the adoption of this report.

The matter of the employee's bill of health was referred to the committee on Civic and Industrial Relation with the recommendation that they get in touch with factories interested.

President Hume: In behalf of the Society I wish to extend to you appreciation for the interest you have shown in all of these matters pertaining to the welfare of the people and the society. This is the best meeting of a House of Delegates that I have been to.

A rising vote of thanks was given Dr. Welsh.
Adjourned.

FIRST DAY

Wednesday, May Twenty-First.

GENERAL SESSION

Hotel Statler.

The meeting was called to order at 10:15 A. M. by the President, Dr. Arthur Hume, Owosso.

INVOCATION: Rev. Chester B. Emerson, Pastor
North Woodward Congregational Church,
Detroit.

Oh, God! our God, how good is man's life—the mere living of it; how fitting to employ all the heart and the soul and the senses forever and aye. We wish and will that it shall be long and that we may have the privilege of learning and loving as well as living, but we would not have it unless in it we may have that measure of health which brings happiness. We pray Thee, Oh! God, that we may be wise enough to ask wise questions of Thy world, that we may have wise answers to guide us. Thou hast filled Thy world with truth but Thou hast hidden it away. Pour out Thy blessing upon these men, Thy children, gathered here to consider the ways of keeping life long and happy. Give them that wisdom that is never content with present attainment, but always eager to discover new truths. Tell them that all the things that have been found are just a bit of that great body of truth that is hidden away in the world for their finding. Give them an increasing sense of their responsibility toward those who lift up their eyes to them to be taught the benefits of truth and happiness. Give them a sense of consecration to the needs of those who are ill and depressed. Help them to lift up the fallen, who are there because of their own wilfulness. Give them, Oh! God, to have a sanctified view of our coming life, and last we pray Thee that we may help in some way to discover that Tree that is set in the midst of Life whose leaves are for the healing of the Nation. All this we ask humbly in the name of

Him who was the Great Physician of all the ills of body and soul, Christ God Almighty. Amen!

ADDRESS OF WELCOME: Dr. James W. Inches,
Police Commissioner, City of Detroit.

Mr. President, Gentlemen of the Society: I am sure it gives me a great deal of pleasure in acting for Mayor Couzens and the people of Detroit in handing the key of the City and the freedom of the City over to the Society for just as long as it wishes to remain in session. I think it is very fitting that the Society should hold this Victory Meeting in this City and at the time when we are welcoming back the boys and the men from the military service, for welcoming men from overseas service and the Michigan State Medical Society is practically the same thing. I do not believe there is another organization in the State of Michigan that has given a greater percentage of its men than the Michigan State Medical Society, and certainly no greater work will ever decorate its escutcheon than to know that over eight hundred of the men gladly and voluntarily laid down their work and accepted commissions in the Army. (Applause) But that isn't all, for while we will always honor those men it must not be forgotten that a certain percentage of this Society who could not go away gave very largely of their time at home in work in draft boards, advisory boards and other military service. I do not believe any other organization gave more largely of itself than the Michigan State Medical Society.

Of the profession at large, surely it has come into its own at last in this war. Surely it has. Time was, and not so long ago, when it was the thing to have military officers shrug their shoulders at the Medical Corps, as something necessary to have along to get the sick and wounded back home. That time has passed and gone and hereafter the military geniuses who plan an army will start and begin and lay their very foundation with the Medical Corps. (Applause). Time was when all the other organizations that went to the front were well cared for and the Medical Corps got along as best it could. Now it goes first and prepares the way for everybody else. Time was when it was the duty of the Medical Corps to carry the sick and wounded back home on leave; now it is its duty to see that there are no sick and to get all the wounded men back to the front as soon as possible. Such advances were made that over 80 per cent of all men were returned to the front and the efficiency of the Army was more than doubled thereby. (Applause). What a wonderful work!

But that is not the great, outstanding feature, great as it is. What is it? This: As a direct result of the work of the Medical Corps and recent advances in Medical science this is the first war in all history in which the men came back from the war in better physical condition than they ever were in before in their lives. You know how it was in the Spanish-American War when the boys came back pale and thin and weak with sickness. Look how it has been in every war the world has known, then look at the boys who marched in our streets last Monday; talk to them—hear them say, as I have, that they are twenty,

thirty, forty pounds heavier and better than they ever were in their lives. Look at their straight bodies and clear skin and realize their condition, and then contemplate the position of the medical profession in this war. Surely the medical profession has come into its own—surely that is something to be proud of, something more than we have ever had before. (Applause). I think so, and so I think it is a very great honor to welcome you here this morning.

If there is anything I can do for you I shall be glad. I have recently had very heavy responsibilities forced upon my shoulders and if there is anything I can do for any of you in that capacity, day or night, gentlemen, just let me know. (Laughter and applause). As a matter of advice I might say keep away from the Italian quarter and the Harper Hospital—they are both danger zones at the present time. (Laughter).

I assure you I feel much honored in welcoming you. Detroit welcomes you, is proud to have you here and gladly and freely offers you everything she has to give. (Applause).

ADDRESS OF WELCOME: Dr. Harold Wilson,
Wayne County Medical Society, Detroit.

Mr. Chairman, Members of the Society: On behalf of the Wayne County Medical Society, on account of the absence of the President, Dr. Bell, it is my pleasure to welcome you today. Detroit is the metropolis of our State, not because it is any better but because we happen to have a few more folks here than you have out in the State, but I like to think of Detroit being the mother of all the rest. Detroit has been accused of having no soul; that may be so, but during this war we think that the Detroit soul has been aroused. We will not admit that we are less efficient than any other city in the United States. Whether it had a soul or not, Detroit certainly had a mother heart, and we welcome you here today. To many of you Detroit is a mother in the sense that it was here that your medical education was secured and here many of you were educated who went out into this war. Many men in high official positions—Surgeon General Ireland graduated here in 1890, Lister in 1895, and also Surgeon General Braisted of the United States Navy, who was not graduated here but who was for ten years in practice here, and we feel that their success is our success. This is true to a degree of every man who has gone out. We are proud of the men who have gone out and come back—many of them, with Major's insignia on their shoulders.

I am glad to welcome you for the Wayne County Medical Society, which is a democratic institution. It went on record the other night as being against one of the hospitals here having a closed institution. We have a building at 33 High Street, East. It is the building of the Medical Society and when you are here we want you to come in and operate in the cafe or library and attend our meetings and operate there. We shall be glad to have you come to any of our meetings and discuss the subjects that are presented there. In this way it gives me great pleasure. The Wayne County Medical Society Building belongs to the medical profession; if

you read a paper there it belongs to the State Society, so it must be that that building belongs to it as well. So when you are here come up to it; we feel that way about it. The money for the building was contributed by the medical profession and it is just as much your home when you are here as anybody's.

We welcome you to our community. We are glad to have you in our colleges and hospitals to see our equipment, and we are glad that through an act of the State Legislature we have become a part of the educational system of Detroit. With the backing that will give us there is no question about the continuity of progress that will go forward here.

If any of us can do anything for you we shall be most happy. If you see anybody with a car you want to ride in, ask him and you will be most welcome. Detroit has a great heart, and every doctor here has a great heart and we will be glad to do anything for you that is within our power. (Applause.)

RESPONSE TO ADDRESSES OF WELCOME: Arthur
H. Hume, Owosso, President, Michigan
State Medical Society.

In behalf of the Michigan State Medical Society we beg to express our appreciation of the cordial welcome that you have given us, and in behalf of the membership of the Michigan State Medical Society and their interests I have paid close attention to what you have said. We accept your kind offer and we are collectively in your care by day and by night. We are thoroughly taken care of—we don't even need a guardian as some of us have at previous meetings (laughter). My private observation taught me that. The Wayne County Medical Society, the Wayne County Medical Society Building, and the hospitality of the Wayne County Medical Society provides for our wants by day, and the Doctor Commissioner has promised you that he will provide for your wants by night. (Laughter.) That does not mean that he will pay your hotel bill, but there are certain wants that the Police Commissioner can provide for and most sincerely do we thank you for this kind welcome. We know that there is no end to the spirit of hospitality, and I believe that this meeting here in Detroit of this Society will be one long to be remembered. (Applause.)

REPORT OF COMMITTEE ON ARRANGEMENTS:
Dr. F. B. Tibbals, Chairman, Detroit.

Mr. Chairman and Gentlemen: I understand this morning why President John Bell did not show up; he was afraid to face you after the falling down of his own appointed Committee on Arrangements. First of all, many of you gentlemen were not met by our automobile committee at the trains. The reason for that, I understand, is that a great many of the doctors who undertook to meet you understood that they were on the entertainment committee and started for Toledo and were held up at the border; therefore they could not meet you and many of you went to bed sober. (laughter).

Secondly, we were delayed in getting into the hall this morning and the hall is cold.

Third, a complete change was necessary at the last moment on the program for all of the military stars whom we expected to have here were detained at the last moment, but we have rearranged the program and you will have a military program anyway. Colonel Angus McLean will tell us about the Surgical Principles Evolved from Military Surgery in the A. E. F. Lt. Col. B. R. Shurly will give us some remarks on hospital service overseas, and Major R. M. Olin will talk to us about the State Board of Health plan for combating venereal diseases.

This meeting in some respects is different from the meetings of the past. You all remember seeing Tracy Southworth lead the chorus of "Landlord Fill the Flowing Bowl" the night before the meeting, and perhaps now you have heard him lead the song "Shall we Gather at the River" (laughter) but we want to do the best we can for you.

Another great disappointment is the fact that the programs are in the freight cars, tied up by a strike, and there seems to be no chance of getting them. The Committee is endeavoring to have the section programs mimeographed so that you can have them this afternoon.

We ask your indulgence for all these things and hope that the meeting will be a success in spite of them.

THE PRESIDENT: In the absence of the programs I wish to emphasize that the section work begins this afternoon at two o'clock, and tomorrow morning at nine o'clock. The general session will not be held tomorrow until 11:30, after the section meetings adjourn. The section meetings will not interfere with the general session.

If you will permit me at this time to express regrets that the gentlemen whom we expected to have with us are not able to be here, I would like to do so. We expected to have Surgeons General Ireland and Braisted and Blue with us. I had a personal meeting with the two former and they were both very anxious to attend because of their former affiliation with Michigan in one way or another.

(The President then read telegrams received from Surgeons General Ireland, Braisted and Blue.)

THE PAST PRESIDENT, Dr. A. W. Hornbogen, Marquette, took the Chair while the President delivered his Address.

THE PRESIDENT then resumed the Chair.

DR. R. M. OLIN, State Health Commissioner, Caro, addressed the Society on the "Michigan Plan for Combating Venereal Diseases."

THE PRESIDENT: While we are perhaps unfortunate in not having the military men from

Washington speak to us, we are not at all unfortunate in having one of our ownest own here with us this morning, and we will now listen while Col. Angus McLean tells us about his experiences with military surgery.

COLONEL ANGUS MCLEAN.

Mr. Chairman, Members of the Association; I have chosen for my subject some description of the work done in the hospitals overseas and will show you some slides.

I might say a few words on the general principles of the surgery in the A. E. F. At the time we went in the other allies, the British, and the French, and the Italians and the Belgians had had over three years' experience in war surgery. During this time they had somewhat changed their methods and arrived at a rather definite idea of taking care of their injuries. When we first arrived over there in July, 1917, each one of the surgeons was given an opportunity to go along the different fronts and spend two or three weeks with the different medical organizations of the allied armies. In that way we were able to make observations of what was being done by the British, and the French, and the Italians and the Belgians. In that way we arrived at some general conclusions as to what to follow. These were afterward boiled down and a general policy was afterward followed. This general policy was changed a little as time went on but pretty much followed the same line. The principal part of that was when we started in the Belgians and the French and the British who had these injuries usually took care of them at the hospitals, bandaged them up, watched their progress, drained them, etc., but did not get such very good results, and the one principle which was followed by all and which was of the greatest benefit was that each injury be taken care of as soon as possible at the Front. The injury was taken care of in this way—that all the injured tissue, all the devitalized tissue was removed. If it was a gunshot wound, or a machine gun bullet or a rifle bullet wound, or a wound from a high explosive—it might be ever so small, but the order was that the wound should be opened and that all the tissue that might afterward become devitalized or necrotic, or form a focus for infection was to be removed. This was first put in force by the French and took the French name of debridement. In all cases we were ordered to do a debridement. Machine gun bullet, and the high explosive and the rifle bullet travel with a very great force. That makes a different injury than if you were here in civil

life and injured by an automobile, for instance. They do not come with such force and the machine gun bullets are not only injuring the area where they hit, but they cut their way through and injure the blood vessels in many instances so the circulation is cut off and you have a stasis of the blood supply, and you have a clotting of the blood, and the amount of tissue that is left there is gradually asphyxiated. You do not have enough oxygen to keep it alive and it gradually becomes devitalized and later becomes necrotic tissue and forms a splendid place for the culture of infection.

The infections there are different from those at home with the ordinary injuries, and the injury from the rifle bullet and the machine gun bullet is different from the high explosive. In referring to the "high explosive" we refer to the shell or something that has been thrown over. When the shell comes over it hits the ground or some barricade first. When a shell hits you will see a great hole there and when it explodes the high explosive divides up into many different shapes and sizes, and when those pieces are carried away and strike the body or limbs of the soldiers they carry with them some of the earth, in which owing to the high state of cultivation there are all kinds of organisms. They are ready to develop at the first opportunity and that was the idea of doing the debridement—to take away all the devitalized tissue possible.

The principle the American surgeon started with was to do that debridement and then close the wound by what was known as primary suture. It was found as time went on that while they got good results in a few cases, they also got wounds that afterward became infected and spread as a great many did. In doing surgery in a great place like the Army you have to have general principles. They can't set a rule for this man or that, no matter how good their judgment may be, but must have a rule which they think will be of the greatest benefit to the greatest number of the wounded.

So later on we had a rule that the surgeons at the front, those at the first aid or the field hospitals or the evacuation hospitals—the instructions were that when they got the soldier to the field or evacuation hospital they should do a debridement down to the good pink tissue which they believed had enough blood supply to keep it alive, and instead of closing that they should pack it with gauze and keep it moistened with some solution, and to use as few sutures as possible. Leave it open—under no considera-

tion to close the wound. Those were the general instructions which were followed for the last four or five months of the war. The gauze was moistened with some solution and as soon as possible those soldiers who were treated were put into the evacuation trains and sent back to the base hospitals. Those who did the debridement probably did not see that patient again for they were sent back to the base hospitals where the rest of the treatment was carried out.

LANTERN SLIDE DEMONSTRATION.

SLIDE 1: Showed a base hospital located in a building formerly used as a Jesuit College, which had been cut off by France in 1905. At the first battle of the Marne it was converted into a base hospital and was used as such until the close of the war. In the courtyard a United States band was playing. Probably no hospital in the State of Michigan was better equipped to take care of patients than this one. Everybody was well cared for by the different organizations, the Y. M. C. A., the Knights of Columbus, the Salvation Army—even including the Christian Scientists for those who did not think they were hurt at all.

SLIDE 2: A dressing room showing orderlies and convalescent soldiers putting on dressings. Four or five hundred dressings a day were put on by these young men after proper training and a little experience. They did wonderful work and usually finished by four or five o'clock in the afternoon. In the more serious cases the dressings were done in the wards by the nurses and doctors, but had it not been for these young men who got so proficient in carrying on the work the surgeon could not have accomplished nearly as much as he did.

SLIDE 3: A sun room and operating room showing an anesthetic being given. Ten to twelve operating tables in the room all in use at the same time during a push.

SLIDE 4: A debridement and secondary closure which had been made two weeks after the original injury.

SLIDE 5: A wound in the buttocks from a high explosive in which debridement had been performed. The tissue had been removed in an area two or three inches deep. After the debridement the patient had been sent to the base hospital and turned over to the wound bacteriologists who were bacteriologists or surgeons who had been especially instructed in the examination of the bacteria of the wounds. There was a Central Laboratory of the A. E. F. for such instruction. The surgeons were taken

from the different divisions and sent in classes to receive this instruction. They visited the wounded each morning and took cultures from the wounds and reported the following morning on a certain card. The wounds were examined every day, usually for fourteen to sixteen days, until they could report that the wound was bacteria free and ready for closure. That was the secondary closure which took place fourteen to sixteen days after the original injury. The wound edges were freshened up, the skin was freshened up and the wound was closed.

SLIDE 6: A wound three or four days after secondary closure.

SLIDE 7: A corridor in the hospital with cots along the walls for less seriously injured. The soldiers looked happy and contented. The one thing they did not talk about was their injuries.

SLIDE 8: Barracks with bomb proof roof and windows protected by strips of paper pasted on criss-cross.

SLIDE 9: Influenza ward, demonstrating type of treatment. Each bed was isolated by curtains over and around the patient so that no contagion was possible.

SLIDE 10: Orthopedic or fracture ward with various appliances in place. All varieties of splints and Balkan frames were used. Early in the war the order went out that all fractures except those above the neck were to be turned over to the orthopedic surgeons. They first recommended that they should be plated and this was done for five or six weeks but this was not satisfactory so the order had to be recalled. There were not a quarter enough orthopedic surgeons to take care of the cases, and most of them were the ones who knew all about flat feet and knock knees and abnormalities of the spine, but most of them had never seen a compound comminuted fracture of the thigh, and most of these cases afterward drifted back to the general surgeon.

SLIDE 11: Showing crowded condition of the hospital corridor when four hundred wounded were brought in after the hospital was already full.

SLIDE 12: Mess hall with soldiers eating dinner. The mess was always plentiful and the mess fund was never all used. The soldiers had all the delicacies that could be obtained.

SLIDE 13: Dental laboratory showing dentists and surgeon treating fracture of the jaw. A man could be taken to these specialists and no matter how badly his jaw was fractured if

it could be held in place when the dentist took an impression he could make an appliance which would hold it in place and afterward the plastic operation could be performed. Remarkable results were obtained.

SLIDE 14: Showing an injury of the foot, which was much more dangerous than one around the shoulder, chest or arm, because such injuries were most frequently caused by high explosives and the infection was much more serious owing to the fact that the foot covering was in the dirt all the time and consequently was filled with all kinds of organisms. Such wounds very frequently developed a gas bacillus or Welch bacillus infection, which was one bacillus for which something could be done. It produced a lot of emphysema but no great amount of necrotic tissue and by keeping the wound irrigated a complete recovery frequently took place. In infection from the other bacilli there was not so much accomplished.

SLIDE 15: Showing a skull fracture treated by transplanting a portion of a rib, which had been found to be the most satisfactory material for this purpose.

SLIDE 16: A French soldier who had received an injury from a high explosive in which the ribs and a portion of the lung on the left side had been torn away. If there was anything in the war which the surgeon had learned or the French had taught them it was the freedom with which they could enter the pleural cavity. If there was a foreign body in the lung they made an opening by removing a rib, if necessary, did anything necessary with the lung to remove the foreign body, and then made an air-tight closure. In spite of this extensive injury the man was walking about in fairly good health and with no pain. Experience had taught that the lung cavity could be opened with almost as much safety as the peritoneum.

Hospital Service Overseas.

Lt. Col. BURT R. SHURLY: Mr. Chairman, Ladies and Gentlemen: Many years ago a physician was driving down one of the prominent streets of Detroit with his horse and buggy. Every thing was calm and peaceful, it was a beautiful day and the horse was trotting along at a good rapid pace. Suddenly the king bolt broke and the doctor was spilled out, as well as his surgical instruments and pills. A little eight or nine year old street gamin who was watching ran up and said, "Say, fella, you wouldn't have far to go for a doctor if you hurt yourself, would you?" (Laughter.) And

so it was with Uncle Sam when the war broke out. Everything was going along peacefully and without any trouble when the war broke out and Uncle Sam did not have to go far for a doctor when he was hurt. Thirty-two thousand men volunteered.

I will show you a few pictures and give you a little idea of Base Hospital No. 36, which was organized in Detroit with thirty-five officers, two hundred enlisted men and one hundred trained nurses. It was the first thousand bed hospital to be organized, and the first thousand bed hospital to leave for France in 1917. We left from the Cunard Docks which you see in the picture, very silently. The work of transportation was very quickly and easily done and we said goodbye to the old Statue of Liberty, which was the most talked of face in France. The two most prevalent diseases in the war were homesickness and seasickness. The ship met the convoy with soldiers of the "Rainbow" or Forty-second Division. All the ships were camouflaged because the submarines were particularly bad. One of the ships quite near to us was sunken, but we landed in Liverpool without trouble and at night we were taken across England. Most of the transportation was done at night and that was one of the things that got on one's nerves. Everything was camouflaged and all the windows in the hospitals were absolutely cut off from the light, and by the insufficient light from candles and lanterns many of the serious operations were done by the surgeons and enlisted men and nurses. We landed at a place called _____ about forty miles from Nancy and went into one of the large hotels that you see in the picture. The town was made up of small hotels which were taken over and we were told to take charge of three thousand beds, although the hospital was originally organized for five hundred.

This slide shows the medical hotel where the gas cases were treated, as well as a large number of flu cases and broncho-pneumonia in which there was a mortality of 31 per cent.

This slide shows the Casino and this is where General Pershing had his headquarters for the first two months after landing in France.

Here is a 250 bed hospital commanded by Major C. W. Barrett. We have these companies brought in on Red Cross trains carrying 600 sick or wounded and as many as six of these trains have arrived at _____ within twenty-four hours. This will give you some

idea of the great amount of work that had to be done.

Here is where the nurses and orderlies and other personnel went in the morning to get cigarettes and what candy was to be had.

This is the Hotel des Sports where many of the nurses were housed as it was the only available place for them.

Here is the place where the boys got athletic exercises occasionally.

This picture gives you an idea of what the French roads are like and how we won the war through the really marvelous roads of France and how important it is for America to learn that lesson. This is the road after three years of war.

This is a picture of the first American soldier that was sent to our hospital and gives you a good idea of what shrapnel wounds are like. Many of them are superficial but some are deep and they vary greatly in size.

This will give you an idea of the mess table in one of the surgical buildings. This base hospital had five of these great hotels.

This is one of the kitchens. We had five of these, many of them commanded by chefs from the Ponchartrain and Tuller to prepare all the good, nutritious food possible to give men anywhere.

Here is where the men slept and shows the camouflaged roof, which was very carefully covered by the Engineers Corps.

This picture shows a line up of the officers, Major Barrett, Colonel McGraw and the others.

This shows the conference that took place every morning in each of the hotels, where the officers went over the serious cases and laid down the program for the day. The surgical buildings were four in number and one medical.

This is one of the rooms we had for sick nurses. About twenty per cent. of the nursing force were constantly sick on account of the contagious diseases, or the strenuous life they led and the limited number of nurses to do the work.

This is one of the wards and gives you an idea of the stoves we had for heating. It was the coldest place you ever saw. The walls were running with water and the sheets, if you happened to have any, were soaked. The cold of the mountains was very trying.

This picture shows the red crosses that were put out in front of the hospitals to let the airplanes know that it was a hospital site.

Here is the medical laboratory, such as we had, where the officers met and a medical society was organized. Every Monday night the cases were shown and the interesting details of our work were brought out.

Here is the Red Cross Farm where the convalescents would work. We had one hundred acres where we had gardening opportunities and kept the convalescent soldiers at work as far as possible and in the early part of the war when there were many cases of tuberculosis and broncho-pneumonia this was of great service. We had 240 sheep on the farm and they paid the expense of running the farm.

Here are some of the Colonial men that came into ——— with the other wounded. They were great fighting men and certainly the enemy was afraid of them.

This picture gives you some idea of the beautiful place this was for the soldiers to enjoy the outdoor life during the summer months. During the winter it was rainy and uncomfortable but in the summer it was delightful.

This is one of the wards and gives you an idea of the beds and wonderful air space the men had for their care and treatment.

This is one of the diet kitchens, and that stove was one of the most valuable things we had.

Here are some of the crippled, 15,324 with a mortality of only 8 per cent.

Here are some of the soldiers lined up; they got out every morning and had a crutch drill. The most wonderful man the world has ever seen is the American Doughboy and the reason for winning the war can all be put into two words—the spirit of the Doughboy. (Applause.)

Here is a line-up of British Tommies. We took care of a large number of these boys and these are on their way back to the Front. They are very interesting fellows and the American soldier gets along with them very well, and we got along with the French very well, and the Americans and French got along better than the French and the British, for some reason. It was wonderful how all the Allies got along together and how they were all given the same care, even by the American Medical Corps, no matter from what race or religion. It was just one grand fraternity of fighting men, and the spirit of it all and the wonder of it all is the thing that seems like a dream to those of us who have come back again.

Here is one of the convoys that is coming back, giving you an idea of how they are treated.

Here is the picture of a Chaplain who did very excellent work among the boys.

Here is a convoy coming in in command of Dr. Walker of our own State.

Here is a picture of the mess on Christmas Day. They had splendid food and were given everything to strengthen the body and plenty of outdoor exercise, when the drives were not on and there was time for it.

This is the Athletic Field where the ball teams met and as many as five thousand convalescent soldiers from four big base hospitals often congregated on Wednesday afternoons to watch the ball games.

This picture shows the Adjutant and his sergeant major in the office where all the details were worked out.

Here is the crutch brigade out for a little airing and jollification.

Here is the picture of a monument erected to one of our personnel who died of pneumonia. We lost one man only, no nurses and no officers, although a great many were sick at different times.

This shows the French Colonels and our officers gathered at Major Barrett's hospital.

Here are some of the ambulances coming in with the sick and wounded. There was very efficient ambulance service all over France and the work was wonderfully done.

This shows one of the operating tables. There were thirty in this hospital and surgical teams were sent in to relieve the situation at different times. Our hospital was used as an evacuation hospital at the Chateau Thierry, St. Mihiel and Argonne drives and many wounded were brought in to us within twenty-four hours. Many of the medical men were under fire from day to day in exposed positions and they all did their work with wonderful grit.

This is the statue erected to Joan D'Arc near ?

This shows you the staff of one base hospital.

Those enlisted men carried wounded men up six stories night and day, often groggy from lack of sleep, and they deserve all the credit that can be given soldiers.

I will run through the rest of the slides hurriedly and show you some scenes at the Front after a bombardment, a German trench after an attack, the barbed wire entanglements, a dugout after a bombardment from which one medical officer was the only one of thirty to escape alive, a camouflaged road after a battle,

an airplane after coming down, a picture of an airplane taken from another, some dugouts that were captured from the Germans in the Argonne drive, a picture of the trees after a barrage, one of the German trenches—showing how wonderfully they were constructed. This picture shows you how the airplane guns were mounted, this one shot three miles; this is a battlefield with the German dead after the Americans had driven through; a street in Betel; the old Paige automobile that went 42,000 miles without mishap; a camouflaged road showing transport carrying supplies; ammunition dump and dugout after a shell had hit; a picture of Verdun after a bombardment; Colonel Berry on a looting party and a German musket just captured; a road near Verdun; motor transport going through the town—they went constantly, day and night all over France; a cemetery with American, French and British dead from our hospital—we lost only 143 in the whole war. This is a picture of the receiving hospital where they were taken in and given hot soup or coffee, given a tub or shower bath, separated and sent to the head hospital if the injury was in the head, or to the medical hospital and classified; 27.3 were looked after in some way by the eye, ear, nose and throat department; this is a ward of ninety-nine beds in the Walker hospital.

To summarize, with this number of cases going through the hospital, with a limited personnel, and the terrible strenuous work that came on during the drives, the most surprising thing in the world was the result that was obtained by the surgeons in this war in the way of prevention of disease, the marvelous healing of wounds and the saving of members. We had only twenty-two amputations. An enormous number of limbs were saved, we had a very low mortality, with no cases of tetanus, no deaths in our own men from typhoid fever—those of you who were in the Spanish-American War know the great loss of life from this disease there, and can realize in small measure what prophylaxis and modern medicine and surgery have actually done in this war. The Reserve Corps and the regular army can certainly be proud of the record they have made. (Applause.)

THE PRESIDENT: I am sure we have all greatly enjoyed the remarks of our military friends and now we have one more item of business before we adjourn. Nominations for president are now in order.

NOMINATION FOR PRESIDENT.

MAJOR W. T. DODGE, Big Rapids: Mr. Chairman: I have been requested to present the name of a man for President for next year. We have all heard of the position the various County Societies are in—that they are more or less disorganized and that the President must be expected to do a lot of labor in the coming year, and to travel about the State a good deal to effect this reorganization. I am sure the gentleman I am to present will fill the bill in every way. I have been associated with him on the Council of this Society and know that he is able and that he has done very efficient work. I take pleasure in presenting for your consideration Dr. Charles H. Baker of Bay City. (Applause). Nomination seconded.

On motion the nominations were declared closed and the session adjourned until eleven-thirty Thursday morning.

SECOND DAY

Thursday, May Twenty-Second.

GENERAL SESSION

Hotel Statler.

The meeting was called to order at eleven-thirty A. M. by the President, Dr. Arthur M. Hume.

The Secretary presented the report of the House of Delegates, as follows: Registration, 517.

The House of Delegates took action opposing Health Insurance and the Delegates were instructed to report the same to the House of Delegates of the American Medical Association.

It was decided that the matter relative to the standardization of hospitals and open and closed hospitals, so-called, should be referred to a committee to be appointed by the President with instructions to report at the next Annual Meeting.

Action was taken that all papers read before the County Medical Societies should be made available for publication in the *Journal of the Michigan State Medical Society*.

The State Secretary was instructed to correspond with the Secretary of the local societies with a view of collecting from all delinquents for non-payment of dues, and especially that the local societies remit to those not yet paid by said societies for service men.

The House of Delegates decided to defray the expenses of the Delegates to the American Medical Association.

The matter of the prevention of communicable diseases among industrial employes was referred to the Committee on Civic and Industrial Relations.

The report was accepted as read.

REPORT OF CHAIRMAN OF NOMINATING COMMITTEE.

DR. F. B. WALKER: The total registration for this meeting was 517 but a good many of the members did not vote. On counting the ballots we found there was one for Dr. Hume and the balance were for Dr. Baker.

DR. ARTHUR M. HUME: Dr. Baker having received the unanimous vote of the Society I declare him elected and will ask Dr. Dodge and Dr. McLean to escort the new President to the platform. (Applause).

Dr. Baker and I were associated for years as councillors of this Society and I can say to you truthfully that if there ever was a Councillor who attended to all the duties of his office it was Dr. Baker. I am sure that the interests of this Society will be perfectly safe and that they will be materially promoted by his election to the presidency.

Doctor, here is the little gavel of the Society. It has engraved on it the names of your predecessors. It is a sort of a little tombstone to me and in a year it may be to you, but use it in the meantime. (Applause—"speech, speech.")

DR. CHARLES H. BAKER, Bay City: Mr. Chairman and Members of the State Medical Society: A man who has the honor thrust upon him of being elected President of a Society the equal of the State Medical Society, if there is such a thing, certainly has reason to congratulate himself. There are only two presidents which I think can be in any way compared—one of them is the President of the State Medical Society and the other is the President of the United States. (Laughter). I have very carefully watched the career of the President of the United States and hope that I may learn something from his experience which will be beneficial to me as President of the State Society of Michigan. There are some things which you see in the career of another man that you would not want to have in your own experience, and there are other things which men would wish to emulate and strive to attain.

I feel that this little gavel may well be my tombstone because my predecessor steps out with all the emoluments and prestige that go with a victory year, and I come in in the reconstruction period. The man who begins with

the building up of an organization which has apparently gone to pieces may make friends or he may make enemies, but so far as it lies in the hands of myself and my devotion to this Society I shall do all that I can to bring the Society back into the state of high perfection which existed previous to the war. (Applause.)

The Secretary announced that acting on the report of the Committee on Nominations the following men were declared elected to the respective offices:

First Vice President: Dr. Angus McLean, Detroit.

Second Vice President: Dr. C. N. Sowers, Benton Harbor.

Third Vice President: Dr. H. E. Randall, Flint.

Fourth Vice President: Dr. P. D. MacNaughton, Calumet.

Councillor Thirteenth District to fill vacancy: Dr. W. H. Parks, East Jordan.

The Secretary announced that a meeting had been called for two P. M. for the purpose of completing the organization of the Michigan Chapter of the American Public Health Association.

Dr. D. Emmett Welsh announced that the next Annual Meeting would be held in Kalamazoo.

Adjournment *sine die*.

SECTION ON GENERAL MEDICINE.

First Session, Wednesday Afternoon, May 21, Hotel Tuller.

The section was called to order at 2:20 by the chairman, Dr. Walter J. Wilson, Detroit. Dr. Wilson read the chairman's address, entitled, "The Physician after the War."

Dr. Frank R. Starkey, Detroit, read a paper on "Tabes Dorsalis." Discussed by Dr. W. H. Riley, Battle Creek; Dr. I. L. Polozker, Detroit; Dr. Collins Johnston, Grand Rapids; Dr. C. D. Aaron, Detroit.

Dr. C. D. Aaron, Detroit, read a paper on "The Significance of Focal Infection." Discussed by Dr. E. W. Haass, Detroit; Dr. Herbert M. Rich, Detroit; Dr. A. W. Crane, Kalamazoo; Dr. Howard Begle, Detroit.

Dr. John B. Jackson, Kalamazoo, read a paper on "Peptic Ulcer." Discussed by Dr. C. D. Aaron, Detroit; Dr. Hugo Freund, Detroit; Lieut. Col. Preston M. Hickey, Detroit; Dr. A. W. Crane, Kalamazoo.

Second Session, Thursday Morning, May 22, Hotel Tuller.

The chairman announced that the meeting would adjourn at 11:30 in order to attend the general meeting at that time.

Major G. E. McKean, Detroit, presented a paper on "Trench Nephritis." Discussed by Major F. W. Baeslack, Detroit; Lieut. Col. T. A. McGraw, Detroit; Dr. William Northrop, Grand Rapids.

Lieut. Col. T. A. McGraw, Detroit, presented a paper on "Pneumonia as studied in Base Hospital No. 36." Discussed by Major G. E. McKean, Detroit; Dr. C. B. Burns, Flint; Dr. William Northrop, Grand Rapids; Dr. O. E. Fisher, Detroit; Dr. A. B. Wickham, Detroit.

Major G. F. Arps, Detroit; was not present to read his paper on "Psychological Service in Army Camps." The chairman announced that his paper would be printed in the journal.

Major F. W. Baeslack, Detroit, read a paper on "Meningitis at Camp Jackson." Discussed by Dr. Don M. Griswold, Detroit; Dr. John B. Jackson, Kalamazoo.

Third Session, Thursday Afternoon, May 22, Hotel Tuller.

Dr. M. A. Mortensen, Battle Creek, read a paper on "Angina Pectoris." Discussed by Dr. W. M. Donald, Detroit; Dr. E. W. Haass, Detroit; Dr. H. A. Freund, Detroit; Dr. Walter J. Wilson, Detroit, Chairman.

Dr. E. G. Eggleston, Battle Creek, was elected Chairman for the ensuing year.

Dr. A. R. Hackett, Detroit, read a paper on "Epidemic Typhoid Fever." Discussed by Dr. W. M. Donald, Detroit; Dr. E. W. Haass, Detroit.

Dr. Joseph Van Becelere, Detroit, read a paper on "Varicose Ulcers." Discussed by Dr. H. R. Varney, Detroit.

Dr. Herbert M. Rich, Detroit, read a paper on "The Modern Clinical Conception of Pulmonary Tuberculosis—Changes in our attitude toward this disease. Correlation of X-ray examination and physical signs. Influence of focal infections. Treatment of surgical tuberculosis." Discussed by Lieut. Col. Burt R. Shurly, Detroit; Dr. J. L. Chester, Detroit; Dr. W. H. Clift, Flint.

SECTION ON SURGERY.

The first session of the annual meeting of the Section on Surgery of the Michigan State Medical Society was held on Wednesday afternoon, May 22, 1919, in the Statler Hotel, Detroit. The meeting was called to order at 2:20 p. m. by the Chairman, Dr. Joseph H. Andries.

The first order of business was the reading of the minutes of the last meeting by the Secretary, Dr. F. C. Witter, Detroit.

The first paper on the program was the Chairman's address—"Diagnosis of Duodenal Ulcer" by Joseph H. Andries, Detroit. There was no discussion.

The second paper was—"When Should Cholecystectomy Be Done" by Dr. William J. Gillette, Toledo, Ohio. It was discussed by Drs.

A. D. McAlpine, Detroit; E. Starr Judd, Rochester, Minn., and C. D. Brooks, Detroit.

The third paper was—"Insult and Injury to Tissues and Their Surgical Repair" by Capt. G. M. Johnson, Traverse City. It was discussed by Drs. A. O. Hart, St. John, and closed by Dr. G. M. Johnson.

The fourth paper was—"Prostatic Surgery" by Major E. Starr Judd of Rochester, Minn. It was discussed by Drs. F. W. Robbins, Detroit; Frank B. Walker, Detroit; J. H. Andries, Detroit; Hugh Harrison, Detroit; Spencer, Grand Rapids, and closed by Dr. E. S. Judd.

There being no further business the meeting adjourned.

The second session was called to order Thursday morning, May 22nd, at 10 a. m. by the Chairman, J. H. Andries.

The first order of business was the election of officers for the ensuing year. Dr. A. O. Hart, St. Johns, was nominated and elected Chairman. The Secretaryship goes over two years and, therefore, Dr. F. C. Witter, Detroit, retains position.

The first paper was—"The Adaptation of War Surgery to Civilian Practice.

- a. Fracture of the extremities, the use of splints.
- b. Infection; treatment.
- c. Debridement.
- d. Foreign body removals.
- e. Transfusions.
- f. Wound closures.
- g. Short quick anesthesia."

By Major F. B. Walker, Detroit. It was discussed by Col. Dean Lewis, Chicago; Drs. H. E. Randall Flint, and G. C. Hafford, Albion.

The second paper was—"Reconstruction of the Wounded.

- a. Different types of injuries to nerves, soft parts and bone.
- b. Discussion of physio-therapy and vocational education in industrial injuries."

By Lieut. Col. Dean Lewis, Chicago. It was discussed by Drs. C. D. Brooks, Detroit; J. D. Matthews, Detroit; Angus McLean, Detroit; John Walter Vaughan, Detroit, and closed by Lieut. Col. Lewis.

The third paper was—"Intestinal Obstruction" by Dr. Henry J. Vanden Berg, Grand Rapids. It was discussed by Drs. L. W. Toles, Lansing; V. J. Cassidy, Detroit, and closed by Dr. Vanden Berg.

The fourth paper was—"A New Aid in the Early Recognition of Post-Operative Ileus" by Lieut. Col. James T. Case, Battle Creek. It was discussed by Dr. V. J. Cassidy, and closed by Dr. Case.

The fifth paper was—"Observations on the Treatment of Empyema by the Closed Method" by Dr. William F. Campbell, Brooklyn, N. Y. It was discussed by Drs. Wood, Detroit; V. J. Cassidy, Detroit, and closed by Dr. Campbell.

There being no further business the meeting adjourned.

The third session was held at the United States Army General Hospital No. 36 (Ford Hospital) on Thursday afternoon, May 22nd, at 2 p. m.

The first thing on the program was a clinic by Major F. G. Dyas, Chicago (stationed at Hospital No. 36). He operated a hernia under local anesthesia with the addition of some ether; and demonstrated a case of multiple wounds in a boy of 18.

The second thing was a clinic by Major F. C. Kidner, Detroit, (stationed at Hospital No. 36), consisting of two operations—one, the first stage of a bone graft for ununited tibia; the second, an osteotomy for mal-union of femur.

The third was a demonstration of apparatus for the correction of fracture of femur by Captain G. W. Van Gorder, of the Hospital staff.

The fourth was a demonstration of the Carrel-Dakin methods with patients by Captain C. B. Gardner, of Hospital staff.

Following the clinic there was an inspection of the hospital including the Physio-Therapeutical and Educational Departments.

There being no further business the meeting adjourned.

Section on Gynecology and Obstetrics.

FIRST SESSION.

Wednesday, May 21, 1919,

Hotel Statler.

The meeting was called to order by the Chairman, Dr. G. A. Kamperman, Detroit, at 2:15 p. m.

Dr. Mark T. Goldstine, Chicago, Illinois, read a paper entitled: "Observations on the Treatment of Salpingitis." Discussed by Drs. Oscar S. Armstrong, Detroit; H. Wellington Yates, Detroit; Reuben Peterson, Ann Arbor; C. H. Judd, Detroit; Mark T. Goldstine, closing.

Dr. C. Hollister Judd, Detroit, presented a paper on "The Relationship of Drainage to Puerperal Infections after Cases of Abortion and Full Term Deliveries." Discussed by Drs. J. H. Carstens, Detroit; John E. Cooper, Battle Creek; Oscar S. Armstrong, Detroit; Ward Francis Seeley, Detroit; C. Hollister Judd closing.

Dr. H. Wellington Yates, Detroit, read a paper on "Inversion of the Uterus." Discussed by Drs. Reuben Peterson, Ann Arbor; John N. Bell, Detroit; Gilbert J. Anderson, Detroit; Harry B. Knapp, Battle Creek; T. T. Dyson, Detroit; C. Hollister Judd, Detroit; Dr. H. Wellington Yates closing.

Dr. Leslie L. Bottsford, Ann Arbor, presented a paper on "The Advantages of Routine Rectal Examination During Labor." Discussed by Drs. Arthur R. Moon, Detroit; Dr. Herbert W. Hewitt, Detroit; D. Hollister Judd, Detroit; Rhodda Farquahson, Detroit; Reuben Peterson, Ann Arbor; E. W. Caster, Detroit; Benjamin A.

Shepard, Kalamazoo; Leslie L. Bottsford, closing.

Adjournment 5:45 p. m. until Thursday morning.

SECOND SESSION.

Thursday, May 22, 1919.

Hotel Statler.

The meeting was called to order by the Chairman, Dr. G. A. Kamperman, Detroit, at 9:15 a. m.

Election of Officers.

The election of officers resulted as follows:

Chairman: Dr. C. E. Boys, Kalamazoo.

Secretary: Dr. Ward Francis Seeley, Detroit.

Dr. Reuben Peterson, Ann Arbor, read a paper entitled "When is Sterilization of Women Justifiable?" Discussed by Drs. J. H. Carstens, Detroit; Joseph E. King, Detroit; John N. Bell, Detroit; C. E. Boys, Kalamazoo; Mary Williams, Bay City; Reuben Peterson, closing.

Dr. C. A. Hamann, Cleveland, Ohio, presented a paper on "A General Surgeon's Experience with Uterine Fibroids and Their Complications." Discussed by Drs. Herbert W. Hewitt, Detroit; J. H. Carstens, Detroit; Reuben Peterson, Ann Arbor; John E. Cooper, Battle Creek; Elmer A. Pillion, Detroit; Howard Williams Longyear, Detroit; C. A. Hamann, closing.

Dr. Herbert W. Hewitt, Detroit, presented a moving picture of a "Hysterectomy for Fibroid." No discussion.

Dr. Walter E. Welz, Detroit, was not present so his paper was passed.

Adjournment for the General Session at 11:45.

MINUTES.

Section on Ophthalmology and Oto-Laryngology. Wednesday Afternoon, May 21, 1919.

The first session was called to order at two-thirty p. m., May 21, 1919, by the Chairman, Dr. L. A. Roller of Grand Rapids, at the Hotel Statler, Detroit.

Dr. Myron Metzenbaum, Cleveland, Ohio, presented a paper on "Nasal Deformities," illustrated with lantern slides. This paper was discussed by Drs. E. J. Dougher, Midland; C. H. Baker, Bay City; R. E. Mercer, Detroit; H. Maynard Ionia; Wilfrid Haughey, Battle Creek; C. N. Colver, Battle Creek; Albert E. Bernstein, Detroit; H. Lee Simpson, Detroit; Emil Amberg, Detroit, and Myron Metzenbaum, Cleveland, Ohio.

Dr. Don M. Campbell, Detroit, read a paper entitled "Importance of Serological Examination in Eye and Ear Diseases." This paper was discussed by Drs. Albert E. Bernstein, Detroit; Wilfrid Haughey, Battle Creek, and Don M. Campbell, Detroit.

Dr. C. H. Baker, Bay City, read a paper entitled "Some Practical Points about Eye, Ear and Nose Work."

There was no discussion of this paper.

The Chairman then appointed the Nominating Committee, as follows:

Albert E. Bernstein, Albert E. Bulson, Wilfrid Haughey.

Adjournment until nine o'clock Thursday morning.

Thursday Morning.

The Thursday morning session was called to order at nine-forty-five by the Chairman, Dr. L. A. Roller.

Dr. L. V. Stegman, Battle Creek, read a paper on "Cavernous Sinus Thrombosis, with Report of a Case." This paper was discussed by Drs. C. B. Fulkerson, Kalamazoo; Will Walter, Chicago; Albert E. Bulson, Jackson; Harold Wilson, Detroit, and L. V. Stegman, Battle Creek.

Dr. Will Walter, Chicago, read a paper entitled "Heterophoria and Heterotropia." This paper was discussed by Dr. Walter R. Parker, Detroit, and Will Walter, Chicago.

Dr. George E. Frothingham, Detroit, read a paper entitled "The Flight Surgeon's Relations to the Flyer." This paper was discussed by Dr. Walter R. Parker, Detroit.

It was moved by Dr. C. H. Baker, Bay City, that Dr. Frothingham prepare an abstract of his paper to be published in the lay press. Motion seconded and carried.

The paper of Dr. R. D. Sleight, Battle Creek, was read by Dr. Wilfrid Haughey, in Dr. Sleight's absence. This paper was discussed by Dr. Walter R. Parker, Detroit.

Adjournment until two o'clock p. m.

WHAT'S IN A NAME.

Not so very long ago when civic slogans were in style, and towns were "wet," the citizens of the Soo had a meeting and appointed a committee to receive suggestions and adopt a civic slogan which would designate the city as a water power manufacturing center, having in mind its possession at its very doors of the famous Saint Marys Falls and Ship Canals.

The slogan committee's membership consisted of ministers, bankers, lawyers, merchants, and a large percentage of saloon keepers. This was at a period when the Soo had one saloon to every one hundred citizens, and as a consequence was a "real lively berg" where life was worth living (not Detroit).

The committee held a public meeting to pass upon the suggested slogans received by mail, of which several thousand had been received. Just prior to the considering of these by the meeting, the Chairman of the Committee, the Reverend Doctor Doe, announced that his committee would first consider any oral suggestive slogan from those present, before passing upon those received by mail or handed in. In answer to his appeal an out of town medic arose and addressed the chair and meeting as follows:

"Mr. Reverend Chairman, gentlemen and ladies, gents and saloon keepers, as a stranger within these parts, I had the experience of partaking last night of the standard hospitality of one of your leading places of refuge—I mean hotels.

Thursday Afternoon.

The Thursday afternoon session was called to order at two-ten by the Chairman, Dr. L. A. Roller.

The Nominating Committee made its report, submitting the following names:

Chairman, Harold Wilson, Detroit.

Moved by Dr. R. B. Canfield that this name be accepted and Dr. Wilson elected Chairman. Motion seconded and carried.

Secretary, H. L. Simpson, Detroit.

Moved by Dr. Emil Amberg that this name be accepted and Dr. Simpson elected Secretary. Motion seconded and carried.

Dr. R. Bishop Canfield, Ann Arbor, read a paper entitled "The Pathology of Mastoiditis with Special Reference to its Clinical Significance."

Dr. Emil Amberg, Detroit, read a paper entitled "Some Present Day Treatment of Diseases of the Ear in the Light of Medical History."

These two papers were discussed by Drs. Harold Wilson, Detroit; Albert E. Bernstein, Detroit; R. S. Goux, Detroit; B. N. Colver, Battle Creek; C. H. Baker, Bay City; Myron Metzbaum, Cleveland; Ferris N. Smith, Detroit; R. B. Canfield, Ann Arbor, and Emil Amberg, Detroit.

Dr. L. A. Roller then thanked those who had participated in the program, and after calling the newly-elected Chairman, Dr. Harold Wilson, to the chair, declared the Section adjourned.

In consequence I am a little sore (physically), but satisfied. I have the natural assurance of my calling which prompts me to suggest an exceedingly appropriate and well-timed slogan for your very ancient and beautiful city, in order to demonstrate my appreciation of the privilege of being on earth. I have two civic slogans to suggest, either one of which I am sure will meet with your unanimous approval and instant adoption. 1st, The Soo, by a dammed site? 2nd, The Soo be dammed. I favor the latter, I thank you."

The M. D. was promptly "fired."

Neoarsaminol.—A brand of neoarsphenamine complying with the N. N. R. standards (see New and Nonofficial Remedies, 1919, p. 41). Neoarsaminol is supplied in tubes containing, respectively, 0.15 Gm., 0.3 Gm., 0.45 Gm., 0.6 Gm., 0.75 Gm. and 0.9 Gm. Neoarsaminol is manufactured under the "neosalvarsan patent" by license of the U. S. Federal Trade Commission by the Takamine Laboratory, Inc., New York.

Tuberculin von Pirquet Test ("T. O.")—Lederle.—Old tuberculin marketed in packages containing three collapsible wax tubes and three scarifiers.

Tuberculin Subcutaneous Test ("T. O.")—Lederle.—Marketed in vials containing 1 Cc. For a description of Old Tuberculin, see New and Nonofficial Remedies, 1919, p. 277.

The Journal
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August

Editorials

THE MEDICAL RESERVE CORPS.

We admit a certain degree of wonderment and surprise when reading in the *Journal of the American Medical Association* that the number of enlistments in the Reserve Medical Corps only total some 2,900. At the time the armistice was signed there were some 32,000 officers in the Medical Corps and we understand that of these some 20,000 have been discharged with but 2,900 seeking commissions in the new Reserve Corps.

We admit we have all had a fairly "good fill" of the army. We concede there is much to criticize. There have been numerous instances of impositions and injustice. There were many men who were Lieutenants who should have become Captains, Captains as Majors and Majors as Lieutenant Colonels. Devotion to duty was often overlooked. Incompetency existed in many organizations. There were reasons for "just kicks" and "sore spots." Executive administration was frequently just the contrary—mal-administration. Yes, you

swore if you ever got out it would be a long cold day before they ever got you in again. However, we venture to state that if your services were again required next month or next year, you would be back in the game again—and would profit by your past experiences.

That is the point we wish to make. Now is the time to secure a reform in the affairs of the Medical Reserve Corps. We have learned much, the Department without doubt has likewise profited. This experience will be wasted if an effort is not made to utilize it. We sincerely hope there will not be another war, or if there is that it will be years hence. Still our house must be put in order.

Where are they who preached so ardently, only a few months ago, on Preparedness? We then saw the need of being prepared and that same need exists today. We can not attain a state of justifiable preparedness if you who have become competent to advise intelligently crawl into your holes and say: "To hell with this man's army," as soon as you received your white slip of paper granting you a discharge.

That which you sacrificed, the service you rendered, the experiences you encountered all call urgently for you to become vitally interested in readjusting and reorganizing the Medical Reserve Corps in order that the mistakes and embarrassments of this last campaign may not be bequeathed to those who may be called into active service in future years.

We have no plan of reform. We do feel that the subject merits the serious consideration of all medical organizations and that there should evolve some plan whereby, in conjunction with the Surgeon-General the interests of the medical profession will be protected in military organizations and the Medical Corps of our army be accorded a greater consideration by the War Department and line organizations.

We will not attain these benefits if we relegate ourselves to an inactive or disinterested state—these needed reforms are not going to be handed to us on a silver platter—we've got to go out and get them and get them NOW.

We note that already, the Dental, Engineer, Quartermaster and Aviation Corps have become

active. We feel that the Infantry, Artillery, and similar combatant organizations are not asleep. The Military Committees of Congress are inviting suggestions. Is the Medical Profession going to remain idle? We welcome a discussion of the subject.

REPRESENTATIVE CASE AND HIS NURSES' BILL.

Representative Wm. L. Case, of Benzonina, Benzie County, serving his first term in the lower house of the 1919 Michigan Legislature, has had his legislative wisdom teeth cut, so to speak.

Early in the session he read an article in one of the medical journals in which attention was called to the fact that State created "R.N.s" or registered nurses, barely covered ten per cent. of nursing needs created by normal sickness, and that owing to the unnecessary length of the nurses' hospital course (three years), together with the limited number of nurses graduated yearly, the universal charge in consequence was a minimum of thirty-five dollars per week, with board and lodging included. The rational deduction, therefore, was that only the very rich and affluent could, except in extreme cases, employ a R. N. or state registered nurse, and that at least ninety per cent. of sickness was dependent upon the so-called practical nurse, whose nursing education and experience was an unknown quantity and quality, and who under the law (by omission) was permitted to claim any kind of a qualification, wear any kind of a uniform or badge, and charge as much or little as she could "put across." She was under no control or regulation, and in many instances she fraudulently represented herself to be "graduated" or "trained," whereas as a matter of fact she had no training whatsoever. Further, for the reason that no method of education was possible without legislation, it was impossible to create an effective plan by which the honest, conscientious and partly trained nurse could improve herself, and in time become a fully competent nurse, capable of taking care of ninety per cent. of sickness at a moderate wage and

consistent with the ability to pay of the ordinary wage earning citizen.

Mr. Case recognizing the above conditions, and having in view solely his duty to the state and her interests, after consultation and advice with some of the leading medical men, framed and introduced into the House at the special session, his illused and much abused (by R.N.s) practical nurses' bill, (printed, as amended since introduction by himself, in this number of *The Journal*).

The bill was given the usual hearing by the Committee on Health of the House and Senate, June 10th. Unexpectedly (to Mr. Case) some eighty nurses appeared in opposition to the bill, including nurses in training (very charming and pretty), graduate nurses, superintendents of recognized (3-year course) nursing training schools, officials of the State and County Nurses Associations, and nurses representing allied interests. Medical men were conspicuous by their absence. Mr. Case explains this seeming omission, and also the absence of our legislative committee, by the statement that he had convinced himself that his bill was so plainly of benefit to the public and to the registered nurses, that he had not expected any opposition, except perhaps from the so-called practical nurses.

His faith in the wisdom, intelligence and purpose of his fellow legislators up to the time of the hearing had been almost a blind faith. Doubt, however, was first injected into his faith when observing the quantity of ice-cream sodas consumed on the afternoon of the hearing by the aforesaid nurses in training, and at the expense of his fellow legislators. It may be noted that Mr. Cases wisdom teeth began bothering him at about this time, and it must not be inferred that actual contact with ice cream itself had anything to do with his tooth trouble.

We were not present at the hearing, and therefore can give very little information relative to the merits of the arguments used, and which so very effectively killed the bill almost at its birth. A Supreme Court Justice, who accidentally was present on the side lines, stated as follows: "The arguments against the bill, which I believe to be a very meritorious one, and

in the interests of the registered nurses opposing the measure, and better still, in the interest of the public, seemed to me to involve in an extraordinary degree selfishness, narrowness, want of prospect or outlook—in fact “unionism” in its worst form.”

The essential features of the much defeated “Case Practical Nurses Bill” are as follows:

1. Registration of those practical nurses who have been nursing under physicians for five years, provided they satisfy the Department of Public Health relative to their *competency* in the nursing and care of the sick, including the so-called midwife.

2. All practical nurses not in the above class to be required to pass an examination, set and conducted under authority of the Department of Health.

3. The Department of Health is authorized to set a standard of professional education for practical nurses and provide a method whereby the nurse can obtain such standard in the most simple and effective manner.

4. Department of Health authorized to set Rules and Regulations (which among other things would designate the uniform, insignia, etc., and also authorized to revoke licenses of those nurses found guilty of wilful violations of such rules and regulations, and for other legal offenses.

5. Annual renewal of registrations with County Clerk and Department of Health.

6. The Commissioner of Health is authorized to provide the executive machinery necessary in carrying out the provisions of the act.

It has been suggested by the nursing associations that the R.N.s would have supported the Case Bill provided the State Board of Nurses had been charged with its administration.

As practical nurses “nurses attend and minister to the sick and afflicted under the supervision and direction of a legally registered physician,” and as they receive their instruction and experience directly from the same source, just where and how the R. N. comes in in the management of practical nurses, is beyond our comprehension.

Journal Michigan State Medical Society:

Having been asked to make a statement regarding my connection with the Practical Nurse Bill during the recent session of the legislature will say that the bill was not introduced at the suggestion of the State Board of Health but when submitted to the secretary of the Board it received his hearty approval. It was then submitted to Governor Sleeper, after warmly approving it Governor Sleeper declared it was a very important matter and should be made into a law.

After further careful consultation the bill was introduced in the House on March 20th and referred to the committee on Public Health.

A few days later I was invited to attend a conference with representatives of the Registered Nurses who had been called to Lansing to consider the proposed bill. In a friendly and informal talk, the bill was most severely criticised and the claim was made that the nurses themselves were planning for the very thing that this bill contemplated and they wished that the matter should not be pushed for the present.

I reminded them of the importance of proposition, that there was no occasion for any sort of competition between them and the suggested class of nurses, and invited them to co-operate with us in getting just the right kind of legislation in the matter. I also assured them that there would be opportunity for amendments and that it would not be pushed without a fair consideration from all concerned.

Further action was deferred until Governor Sleeper called on me in reference to the bill and strongly urged that it should be put through.

It was then getting late in the session, it seemed impossible to get the whole committee together to consider it. However, it was finally reported to the House with the recommendation that it should pass.

This was within a week of final adjournment, the committee had acted without a full membership present, there was not opportunity for giving it the consideration to which it was entitled and when the bill came before the House it was on my own motion referred back to the

committee, although knowing this action disposed of the matter for the session.

In the call for the Special Session, Governor Sleeper without suggestion from me included the consideration of this bill in his message.

With some changes it was again introduced and referred to the Public Health Committee. Notice was given that there would be a public hearing on the bill before the House and Senate committees. This hearing was attended by a large delegation of Registered Nurses and their representatives. Believing that this bill would make an appeal on its own merits I had made no provision for boosting and at the hearing was absolutely alone. On account of personal limitations the bill had had very little show against the persuasive influence and overwhelming opposition of the fair sex.

Besides the large lobby that was much in evidence during two days, it was evident that the mails and wires of the state had been used to advantage, for from many members I would be greeted with "What is the matter with the Nurses' Bill? I am getting a lot of telegrams and letters asking me to oppose it."

The day following the hearing the chairman of the Public Health committee reported the bill to the House without recommendation. Some member promptly moved to lay it on the table. This was done regardless of an appeal to permit the matter to come before the House on its merits. And so the matter was closed as far as the 1919 legislature is concerned.

The organization of Registered Nurses of Michigan will not deny that they were successful in blocking any legislation on this important matter. The proposition did not come before the legislature at all for action. Having deliberately defeated this effort to provide an adequate supply of certified nurses, let them now make good their definite promise to make provision for this need by some constructive and practical plan or leave it to the next legislature to make such a provision as it may seem best for the people of the State.

W. L. CASE

HOUSE BILL NO. 5.

Introduced by Mr. Case, June 4, 1919. Referred to the Committee on Public Health.

A bill to promote public health and to define the vocation of practical nursing; to provide for the ex-

amination, regulation, licensing and registration of practical nurses and prescribing the duties of the State Department of Health in relation thereto and to repeal acts and parts of acts in conflict therewith.

The People of the State of Michigan enact:

Section 1. For the purposes of this act the term "registered practical nurse" shall be deemed to include any person who, for hire or reward, nurses, attends and ministers to the sick or afflicted under the supervision and direction of a legally registered physician, but shall not be deemed to include nurses registered under act number three hundred nineteen of the Public Acts of nineteen hundred nine, as amended, and practicing and known as "registered nurses."

Sec. 2. On and after the first day of April, nineteen hundred twenty, all men and women engaged in the practice of professional nursing, including obstetrical nursing, other than as registered nurses, under section one of this act, and all who wish to begin the same in the State, except as herein provided, shall make application to the State Department of Health to be registered and to be furnished a certificate of such registration. This registration and certificate shall be granted to such applicants as shall give satisfactory proofs of being nineteen years of age, of good moral character and of having received the equivalent of a recognized grammar school education, and who shall successfully pass the examination hereinafter provided for.

Provided: That the State Department of Health shall from time to time set a standard of professional education for practical nurses under this act, which may include courses in recognized training schools for nurses, of not less than a three (3) months' course or greater in length than a school year, or it may set some other suitable educational course for practical nurses, other than a hospital course, or one or both of such courses, either separately or together. The recognized completion of aforesaid course or courses shall be held necessary for admittance to the examination provided for in Section Number 3 of this act.

Sec. 3. It shall be the duty of the State Department of Health, at least semi-annually and oftener if necessary, at such times and places as it shall designate, to hold an examination for registration for practical nurses, as provided by this act. Such examination shall be either written or oral, and upon such subjects and by such examiner or examiners as shall be determined by said department for such examination, and shall embrace the subjects usually taught in approved schools of nursing.

Sec. 4. Any applicant, at least twenty-one years of age, of good moral character, and who has not been convicted of a criminal offense, and who has pursued as a business the vocation of nursing for a period of not less than five years immediately prior to the taking effect of this act, and who presents to the department sufficient proof that he or she is competent to give efficient care to the sick under the direction of a competent physician, and a certificate of recommendation signed by at least two registered physicians, testifying to the applicant's character and ability as a professional practical nurse, shall be entitled to registration and furnished with a certificate without examination: Provided, That no nurse shall be registered under this section unless applica-

tion for registration shall be made within one year after this act becomes operative.

Sec. 5. Every applicant for registration under this act shall pay a fee of five dollars upon filing his or her application. Upon the issuance of a certificate of registration each nurse shall cause a certified copy thereof to be filed with the county clerk of the county in which said applicant resides, with an affidavit of his or her identity as the person to whom the same was issued, and his or her place of residence at the time of the examination and registration. The county clerk shall charge fifty cents for registering such license. Such certificate shall be renewed annually upon application to the Department of Health, the fee for such renewal to be one dollar. All fees collected by the Department of Health shall be paid over to the State Treasurer and credited to the general fund.

Sec. 6. Any person who shall have complied with the provisions of this act and received a certificate of registration shall be styled and known as a "registered practical nurse," and be entitled to append the letters R. P. N. to his or her name.

Sec. 7. Any person properly registered under the provisions of this act shall, before entering any service in that capacity, furnish a certificate of good health from a properly registered physician, issued within ninety days from the date of presentation, showing that he or she is free from tuberculosis or any specific or infectious disease. Such certificate shall be renewed semi-annually.

Sec. 8. Any person who shall, after the taking effect of this act, practice professional nursing without first complying with the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than two hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment for each offense. This section shall not apply to professional nurses registered under act number three hundred nineteen, Public Acts of nineteen hundred nine, as amended.

Sec. 9. When any person shall append the letters R. P. N., or shall use any other letter, figure or sign to indicate that he or she is a registered practical nurse, it shall be prima facie evidence of practicing professional nursing as a registered practical nurse without the meaning of this act.

Sec. 10. This act shall not apply to the gratuitous nursing of the sick by friends or by members of the family. It shall not be construed to interfere in any way with religious communities having charge of hospitals or those who care for the sick in their own homes.

Nor shall it apply to non-professional nursing and to those who do not hold themselves out as professional nurses or as qualified nurses registered as practical nurses under this act, nor shall Section 1 of this act apply to obstetrical nurses registered under this act, who attend and nurse women during confinement, when no physician is in attendance or in charge of the case.

Sec. 11. The Department of Health shall have the power to revoke any certificate issued by said department in accordance with the provisions of this act, for the following causes: Gross incompetency, violation of the provisions of this act, violation of the published rules and regulations of the department,

dishonesty, habitual intemperance, or the commission of any act derogatory to the morals or standing of the profession of nursing, as may be determined by the department: Provided, The department may revoke the certificate of any person registered under this act, granted upon mistake of material fact, or by reason of fraudulent misrepresentation of fact, or the certificate of any one guilty of a criminal offense created by or embraced within the provisions of any state, provincial, territorial or federal act, in the United States, or in any foreign country, when such criminal offense shall have been legally established in a court of competent jurisdiction: Provided further, That such revocation shall be made only upon specific charges in writing, under oath, filed with the secretary, a certified copy of such charges and thirty days' notice of the hearing of the same having been personally served upon the holder of such certificate. Said department shall be authorized to furnish a list of the names and addresses of those whose certificates have been revoked to the board of examiners of other states upon the written request of such board.

Sec. 12. It shall be competent for any training school for nurses, now or hereafter established, to accept candidates for training as practical nurses, the course of instruction and length of time for the completion of such course for such training to be prescribed by the Department of Health. The establishing of such training classes in any school for nurses shall in no way prejudice the standing of such school as a training school of registered nurses.

CHIROPRACTORS SO-CALLED AND THEIR BILL.

The ever present chiropractic bill was introduced in the House last session by Representative Newman Smith of Detroit. Like unto its predecessors, it went into the discard early in the session, the credit for its early demise being due to Representative (Dr.) John W. Moore, Atlantic Mine, of the Health Committee of the House, who acted for the State Society in the absence of its Legislative Committee.

The bill defined chiropractic to be the "Science that teaches that disease results from atomic disrelation, and teaches the art of restoring atomic relation by a process of adjusting by the use of the hand or other mechanical manipulation." From the standpoint of being able to *see, feel* and *appreciate* chiropractic, the definition appeals to us as correct, but the mechanical division of an atom was not in the chemistry of our day.

A provision of the bill provides for the registration of chiropractors who were registered by the State Board of Registration in Medicine under the "drugless healers" provision of the

1913 Medical Act. As no "chiropractors" were registered as such by the Medical Board, we are at a loss to understand the purpose of the provision.

The chiropractors threaten to re-introduce this bill at the 1921 Session of the Legislature, but Representative Moore states that he will have erected in a conspicuous spot on the Capitol grounds, a picture of a little red schoolhouse. He anticipates this will shoo them off, as it is generally admitted that chiropractors have no love for education and its methods.

If the Board had already registered chiropractors, why was it necessary to register them again, unless the \$10.00 registration fee was the incentive for dual registration?

The bill also provides that chiropractors should be authorized to "use or prescribe anti-septics for purposes of sanitation and hygiene to prevent infection and contagion." This provision represented the usual "joker" present in bills of this kind. In as far as permitting the use of drugs and other material remedies, the *sky* was the limit in this section, and would have given chiropractors an equal status with registered physicians.

VICTOR CLARENCE VAUGHAN, JR.

The July *Journal* contained an obituary notice announcing the accidental death by drowning of Victor Clarence Vaughan, Jr. who was still serving as an officer of the Medical Corps with our Expeditionary Forces in France—a service abroad of more than two years. While the writer is yet uninformed as to the details surrounding his death, he feels that a fuller record of the deceased's professional life should be recorded. Still that may hardly be necessary for his association with the activities of our Society and members was so intimate that we all are familiar with that which he had accomplished and which created such an enviable position for him in our medical sphere of Michigan.

Forty years of age, graduate of the Medical Department of our University in 1902, Profes-

sor of Preventative Medicine and Associate Professor of Medicine in the Detroit College of Medicine and Surgery, Member and Fellow of all our recognized Medical Organizations, Past President of our Anti-Tuberculosis Society, active and pioneer mover in the anti-tuberculosis work in this State and Nation, a specialist in diseases of the chest, and over and above all an internist and man receiving the respect and held in esteem by all who knew him—these were the salient characteristics that created for him a foremost place in our professional life in this State.

We feel no need for enumerating in detail the achievement he wrought. We feel that the positions he occupied and the manner in which he executed his work, has indeliably recorded his successful career, now terminated just when he was in the mid-day of life. Inspired by a father, who is beloved by all, Victor C. Jr. gave rich promise of emulating and attaining a like relationship to the doctors of Michigan.

We may ponder over and endeavor to seek the reason why with such a brilliant career and so much need for his services still existing, his activity should now be terminated and his book of life closed. We cannot quite reconcile ourselves to these decrees of life or fathom its meaning.

Victor Clarence, Jr., rests physically alongside our other heroes who went forth and made the Supreme Sacrifice on French soil. His soul, we know, rests in that peaceful "Somewhere" of sunset and dreams. His influence, his life activity, his fellowship, his leadership has not terminated but rests in our souls, is reflected in our lives and through us, as we revere his memory, will continue to exercise a beneficent influence for good such as he inspired in person and in deed.

No word, no act or record of tribute of ours can assuage the wound inflicted upon his wife, father and brothers. Time alone can bridge that gaping debridement. However, we assure them of our hearty sympathy and bless them that though "Claire" will not return, such a sweet memory is theirs to conserve and reflect upon.

F. C. W.

Editorial Comments

The minutes of the Annual Meeting are contained in this issue. We invite your attention and urge a careful reading of them. During the succeeding issues all the papers that were read and the discussions that followed will be published. These are all timely and valuable articles. They are going to help you in your work. When the Journal reaches you don't toss it upon the "old pile," tear off the wrapper and read it from cover to cover, including the advertisements, for its going to be more than worth your while to do so.

Under Original Articles in this issue we are publishing the entire proceedings of the Section on Public Health that was held in Detroit as one of the Sections of our State Meeting. We are giving special space to this report and the discussions engaged in. We are firm in the opinion that the problem of Public Health, is the foremost one that confronts our profession in America today. Splendid as has our progress been there still remains much to be done in the way of educational propaganda and the enactments of definite plans of administration. Michigan has been in the fore rank of this movement but the time is here when it must advance to the foremost rank. It is not an impossibility and with our good fortune of having in our State such leaders in Public Health Work as Vaughan, Kiefer, Olin DeKleine, Rockwell, Slemons and the Health Officers of various communities, Michigan through its profession can readily assume a leading role in the National Public Health Campaign. With the rules of right and healthful living still fresh in the minds of our returning soldiers, with a public cognizant of what health measures accomplished in the army and in cantonment communities the time is here for an aggressive campaign. The Journal tenders its pages to support such a movement and urges every member to become actively active in his community and subscribe his support.

Yes it's hot and those of you who went through a hard winter of work deserve a little play time and easing-up "while those who have or are returning from the service are entitled to a breathing spell to get used to "civies," rest their saluting arm, dust out the office and inspect their surroundings. Nevertheless there is one thing that must not be lost sight of and that is Our State Society and its component County Societies. We are in a reconstructive atmosphere and as doctors we are particularly interested in reconstructive medicine, medical practice, regula-

tion and organization. It devolves upon each individual doctor to determine the degree and scope of this reconstructive work insofar as it pertains to his profession and his greatest influence can only be exercised effectively through his county society. To that end then it is now that each County Society should rise to the occasion. We urge that this become the subject for a special summer meeting so that definite plans may be formulated for our fall and winter work.

We invite County Secretaries to present us with the problems that confront them. By taking up these matters with the Council it is possible we may aid you in solving them. Try it, we are ready to help.

Our adjustment to civic life and practice is not yet complete. We are endeavoring to shake the military viewpoint but in the meantime we request a tolerance of temporary duration, for any army traits that may unwittingly creep in our administrative work.

Material changes are occurring in every avenue of life—business and professional. Some of them arise from external conditions; others are introduced internally. It is important that these changes be controlled as much as possible by the business or profession affected. The directing and controlling force for our profession is dominated by the County and State Societies. To control forced changes and to initiate others demands careful consideration of fundamentals, and a fresh analysis of our capacity to fit into the new order of things. And after all is said and done the most valuable and enduring asset is good will. With the recognition of our reconstructive movements by the public and the support composed of the good will of the public and the profession amongst themselves no obstacle can bar, obstruct or nullify our organized efforts in Michigan. It then becomes our paramount duty to cultivate and secure this good will in amongst ourselves and the public at large.

The Journal is only possible by reason of the funds secured from our advertisers. Without that income the present day cost of publication would make it impossible to issue a Society Publication without an additional assessment of at least five dollars per member. The size and features of each issue is governed to a large extent by our advertising sales. Our advertising sales depend upon the patronage conferred upon advertisers.

The Victory Number of the Journal has evoked many favorable comments and congratulations

from both medical and lay publications. Until one becomes conversant with the large amount of labor entailed in getting out such a issue it is impossible to realize the hours that were devoted to the editorial work.

Every effort was made to secure and incorporate in that issue the picture of every member of our Society who was in the Service. To secure them correspondence was entered into with County Society officers, families of members and local committees. Requests were repeatedly sent and perseverances in repeating these requests for photographs. This was started in January and kept up to the very hour of going to press.

In spite of this persistent effort the photographs of many members who were in the Service were not secured. This is our only regret. It is tempered by the fact that everything was done to secure them and the inability to do so was through no fault or neglect of Dr. Welsh.

As it is, an unpayable debt is due to Dr. Welsh for his efforts in turning out the biggest and most historical medical publication ever produced in Michigan. The Society acknowledges its obligation to Dr. Welsh.

In reading the minutes of the Annual Meeting we note that the tendering of the members' thanks to the Detroit profession for their hospitality and labor in caring for the members' comforts and needs was overlooked. We are sure that each one in attendance was duly appreciative and experienced the cordial hospitality of the Detroit profession. We are not informed who were Detroit's most active workers in the matter of arrangements but we are sure that, while not formally recognized, their efforts did not pass unnoticed. By virtue of the authority vested in him, President Baker directs that we extend to the Detroit profession the Society's cordial appreciation and hearty thanks for their untiring efforts before and during our 1919 Annual Meeting and to record this sentiment in the Journal. *Gracia tante*, to you Detroit members.

Any members knowing of desirable locations or partnerships that are open for Doctors are invited to send such information to The Journal. We are receiving quite a few inquiries as to where desirable locations may be found.

Yes, we are back home and in "civies" again and mighty glad for it. To attempt to impart the many thoughts and experiences that our foreign service inspired would involve too much space. So we have concluded to make no further comment. The war is past, now let's all dig in

and build up a strong organization and materially benefit each other. It's up to us individually to keep our State Society and profession in the front ranks of medical activities in this Country.

We cannot foretell your individual or community needs, or your preferences as to organizational work in your county and district unless you impart them. So we invite you to communicate with our President, Dr. C. H. Baker, Bay City, or with your Secretary. If you wish to have your letter published send it to the Journal. What we are after is to find out what you want. It is only by knowing your needs, that your Society can be of service to you. So come across and tell us and we will do our best to bring about the desires of the majority of our members. In a personal communication our President writes that: "I am ready and willing to spend time, labor and money to revive and create new interest in our State Society." With such a splendid spirit it is only fair that you too put your shoulder to the wheel and enable him to complete a banner year of organizational activity. We must lose no time in starting the work.

In purchasing almost any commodity the sky seems to be the limit when it comes to cost. It is going to cost almost 50 per cent. more to publish the Journal this coming year. To break even we must hold our present advertisers and secure additional ones. To hold the ones we have you must patronize them. To secure additional ones we must find each member plugging for the Journal and sending us an advertiser whenever he can. It is only in this way that we can avoid a deficit or the need of increasing our dues.

The following resolution was passed at the Annual Meeting of the Texas State Medical Society. Does a like condition exist in Michigan? If so, may we not well emulate Texas' example?

Whereas, Many physicians who entered the Army during the recent war gave up positions with industrial concerns from which a part of their incomes were derived, and,

Whereas, In some instances physicians who have succeeded them during their absence are still holding their positions and have shown no inclination to resign and make way for the returned soldier, therefore, be it

Resolved, By the Board of Councilors that it is the sense of their board that such conduct does not exhibit the proper consideration for the soldier who, for patriotic reasons, abandoned every financial interest necessary to enter the service to protect the life and property of all who remained at home; and be it

Resolved, further, That all county societies take cognizance of such ungrateful and inconsiderate conduct and use their full influence in bringing pressure to bear upon both the physicians in question and the employing industrial concerns, to induce them to restore the returned soldier to his former position.

A public hearing was given the chiropractic bill in the Senate Chamber at Lansing, March 17, last. Chiropractors from Detroit and elsewhere in the state, and their attorney supporters, were out in force in support of the bill, while the osteopaths of the state were well represented in opposition. The State Medical Society was not represented. The osteopaths' main argument in objection to the bill was the claim that chiropractic was stolen osteopathy. The entire absence of proper educational standards, the principle of the protection of the public against fraud and incompetence, and the "joker" contained in the bill permitting chiropractors to practice any kind of medicine under the guise of preventing infection and contagion by the use of antiseptics, did not seemingly appeal to the osteopaths as reasons for its defeat.

Dr. Augustus S. Downey, of the New York Board of Regents, whose reputation as a fighter of similar bills in the New York Legislature is national, and who was an interested spectator of the hearing, writes:

"The osteopaths wanted me to appear against the chiropractic bill, but I told them that I did not come out there for that purpose, and that we had troubles enough of our own in New York without my meddling with the chiropractors of Michigan. I quite agree that the osteopaths made a very poor showing. I heard some of their arguments and they really talked their cause to death. I sat in the Assembly Chamber just long enough to see that they were killing their own goose and that the chiropractors had by far the better of the argument. Then I left, for fear I might be drawn into the controversy."

In view of the above, Representative Moore's quick and effective strangulation act in the Committee on Health is most commendable.

He received very material aid from the Chairman of the Committee, Hon. Franklin Moore of St. Clair.

Deaths.

Dr. Harry Pepper, of Detroit, died suddenly June 8th at Union City. The doctor was 36 years of age. Cause of death myocardial disease.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

MEDICAL RECIPROCITY WITH ONTARIO

At a meeting of the Educational Committee of the Ontario Medical Council (the provincial medical licensing body), held in Toronto, June 25th, a special committee was appointed to take up the subject of medical reciprocity between Ontario and Michigan. In connection with the above the Ontario license of Major J. J. Walters, a graduate of Toronto University, and a member of the Ontario Medical Council, has been indorsed by the Michigan board as a "starter."

It may be remembered that in 1902, shortly after medical reciprocity had been pronounced an impossibility at the meeting of the American Medical Association at St. Paul the previous year the Michigan board indorsed the medical license of a Wisconsin licentiate—the first medical license indorsed through reciprocity in the United States or in any other country. The policy of the board at that time was, and is to-day, "Let's do it, not talk about it." To-day forty states are in the reciprocating column. The Canadian provinces are also reciprocating one with the other; and the various professions and near professions in the several states, including dentists, pharmacists, attorneys, optometrists, osteopaths and nurses, are all reciprocating upon the basis of qualification 1 and 2, the original fundamental indorsement formulae upon which the first reciprocity license was issued by Michigan.

OFFICIAL CEMETERY.

The wife of a Detroit policeman who was killed over a year ago through the criminal carelessness of the son of a wealthy father, and who at the time was arrested for manslaughter, has asked Prosecuting Attorney Bishop, recently appointed to succeed the late Charles H. Jasuowski, the reason for the delay of over a year in the prosecution of the case. The prosecutor found that the case had been "officially buried" along with some fourteen other cases, all criminal ones, during the term of his predecessor in office.

Assistant Prosecutor Speed in a public explanation states that at a meeting held in his office at which the widow and the father and son were present, an offer for settlement by the payment

of a sum of money to the wife of the victim was proposed, and he had supposed the case had been settled amicably by the parties involved in the criminal case.

From the above case in view, are we to understand that criminal cases are subject to financial adjustment in the office of the prosecuting attorney of Wayne County?

It would seem so on the surface at any rate, and what about the other fourteen cases reported by the new prosecutor found "officially buried."

Warrants during the past year have been sworn to against "get-rich-quick" medical fakers and medical "holdup artists" in Detroit with the result in many instances after weeks and months of attendance in police and other courts of witnesses, followed by adjournments without seemingly any reason for same, the cases have completely disappeared without notification and without explanation of any kind or degree. Occasionally one is informed, after frequent inquiry, that a case has been discontinued upon advice of the prosecutor, the reasons given being in most instances, lost, removed, disappeared or dead witnesses.

We are pleased to learn through the press that Prosecutor Bishop has promised a "housecleaning" in the near future. We know of no place more in need of the proverbial "new broom."

Hon. Merlin L. Wiley, A.B., L.L.B., University of Michigan, 1904, representing Chippewa County in the Legislature, and author of the Wiley Bill which was passed by the 1917 Legislature and put Michigan in the dry column, is a candidate for nomination on the Republican ticket, 1920, for the state office of Attorney General.

The Supreme Court upheld the Wiley Bill in all of its provisions, and made many complimentary remarks involving the ability of its author.

Representative Wiley, together with Attorney General Groesbeck, drew up the Lemire Utility Bill, which passed the Legislature after it had rejected many other proposed bills covering the same matter.

Attorney Wiley would make an ideal Attorney General, and medical legislation and the proper and effective enforcement of medical laws covering violations, and allied laws, would receive his most earnest attention.

Hon. Leland W. Carr, of Ionia, Assistant Attorney General during the past eight years, and who has had charge of the legal business in connection with the State Board of Health and the Board of Registration in Medicine, has been appointed Deputy under the Commissioner of Highways,

the salary of which is six thousand a year. It is one of the most important of the official positions in Michigan, and we congratulate Mr. Carr and the people of the state. No attorney in Michigan stands higher from the standpoint of faithful service, legal attainment and success.

Mr. Carr is rightly considered an authority in cases in which medico-legal questions are involved.

Two State Board examinations were held in Detroit this year, the first on February 19-20, at which 28 candidates wrote on the Final.

The second examination, held June 17, was for Primary candidates only, 51 students from the Detroit College of Medicine and Surgery taking the examination.

The examinations were held at the Hotel Tuller, the usual place.

A State Board examination for license was held at Ann Arbor, March 17-19. Seventy-one applicants wrote on the Primary (first two years), and 48 on the Final. The Finals received their degrees at a special Commencement, March 20.

An additional examination was held by the Medical Board, June 10, 11, 12. Twenty-eight applicants appeared for the Primary, and eleven wrote on the Final. The latter represented those students who did not as a war measure continue their courses from July, 1918, without the usual vacation period.

Within the past two years, owing to the scarcity of labor and the large number of foreigners returning to their native countries, Detroit has become the mecca for the negro race residing south of the Mason and Dixon line, to the extent of some thirty thousand additional colored population of the laboring class. Following this incursion, increased numbers of colored physicians are seeking registration in Michigan.

Dr. John W. Moore, Atlantic Mine, who represented Houghton County in the Legislature this session, was one of the most popular members of the House, and deservedly so. His influence for good was far-reaching and his return to the Legislature of 1921 assured beyond doubt. His friends, who are legion, are suggesting him for Lieutenant-Governor, and some of the far-seeing ones as Governor, at no distant date.

Senator Wm. A. Lemire, M.D., Escanaba, was one of the most influential members of the Senate this last session.

As Chairman of the Health Committee, he was largely responsible for the success of health legis-

lation, and he deeply regrets that he was unable to "swat" the chiropractic bill, on account of its early demise in Committee of the House.

Members of the State Board of Registration in Medicine: Dr. Arthur M. Hume, of Owosso, to succeed himself; Dr. Frank Kelly, of Detroit, to succeed Dr. Enos C. Kinsman, of Saginaw; Dr. Duncan A. Cameron, of Alpena, to succeed himself; Dr. J. D. Brook, of Grandville, to succeed Dr. F. C. Warnshuis, of Grand Rapids; Dr. A. L. Robinson, of Allegan, to succeed himself.

Isidor M. Cherniak, M.D. (Detroit College of Medicine and Surgery, 1917), practicing medicine in Windsor, Ontario, recently convicted of the illegal prescribing of whisky, has had his license revoked by the Ontario Medical Council.

Those who knew him will regret to learn of the death of Dr. Abraham Jacobi of New York. An ex-president of the A.M.A., pediatrician of international repute and a lovable man who attained the ripe age of 89.

Dr. F. N. Martin and Miss Ethel Ladimer of Baltimore, Ohio, were married June 12. They will reside in Benton Harbor.

Branch County Society held its seventh annual picnic at Marble Lake on July 15th. Every one reports a good time. There is no reason why every Society should not have a similar outing.

Dr. Albert H. Barrett has accepted the appointment as Chief of the Out Patient Neurological Service, Harper Hospital and will be permanently located in Detroit.

Detroit seems now to have a Prosecutor who is making "Quack Doctors" uncomfortable. We are pleased to note he is ridding Detroit of these fakers.

Attention is called to the advertisement of the Upper Peninsula as a resort for those who suffer from Hay Fever.

Someway or another we are not receiving sufficient news items. Won't you send us your local happenings for publication and record?

The Clinical Surgical Congress will be held in New York during the last of October.

Dr. A. J. Brower, formerly of Greenville, has located in Flint.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

GRATIOT-ISABELLA-CLARE COUNTY.

The June meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright house in Alma Thursday, June 19, at 2 p. m. Dr. J. A. Bruce of Saginaw was the guest of the day. The doctor read a paper entitled "Newer methods and older problems" which was a most interesting discussion of focal infections. The paper was timely, and was made more impressive by case histories of actual cases the doctor had encountered in his own practice. The paper was discussed by nearly every one present. After Dr. Bruce left on the 4 o'clock train the usual order of business was taken up.

E. M. HIGHFIELD, Secretary.

SANILAC COUNTY.

Sanilac County Medical Society met at the Court House, Sandusky, July 16th, for the purpose of revising the County Fee Bill. President, Dr. J. E. Campbell, Brown City, presiding.

The following Fee Bill was adopted and to take effect Aug. 1st, 1919: Day calls in city 7 a. m. to 7 p. m. \$2 up. Night calls in city 7 p. m. to 7 a. m. \$3 up. Day calls in country 7 a. m. to 7 p. m.; First mile \$2; second mile \$1 extra, each additional mile 50c. Night calls in country one-third more than day rates. Obstetrical fees \$20 up. Reducing fracture of femur \$50 up. Reducing fracture of tibia or fibia \$25 up. Reducing fracture of humerus \$25 up. Reducing fracture of radius or ulna \$15 up. Deliverations to be charged at same rates as fractures. Office calls, minimum charge \$1.

Following the meeting Dr. (Major) J. C. Webster, gave a very interesting talk on "His Personal Experience in the Army Over Seas."

The next meeting of the Society will be held at Brown City Wednesday, September 3rd at 2:30 p. m. and some outside talent will be invited to entertain us.

J. W. SCOTT, Secretary.

Book Reviews

THE HIGHER ASPECT OF NURSING. Gertrude Harding.
12 mo. 300 pp. Cloth, \$2.00 net. W. B. Saunders Co.

This volume should be made a part of the prescribed reading course of every nurse in training as well as a guide to every graduate. The work imparts the author's many years of personal study and experience in training schools. The time has come when nurses must possess more than technical training; she must cultivate a character and a morale. The author has imparted in plain, definite language the desirable features of a nurse's character and how she can attain those attributes. It is a splendid discussion and should go far to enhance the higher aspects in nurses if training school officers will insist upon having their pupils familiarize themselves with and practice daily its teachings.

RECONSTRUCTION THERAPY. William Rush Demton, Jr., M.D. Illustrated. W. B. Saunders Co.

This is a timely discussion of a subject that is now foremost in many minds. It is applicable not only to the injured but also to those who are physically and mentally sick. A splendid bibliography is incorporated in this instructive work.

AN OUTLINE OF GENITO-URINARY SURGERY. George Gilbert Smith, M.D., F.A.C.S. Cloth, \$2.75 net. W. B. Saunders Co., Philadelphia.

As its title indicates this is an outline presenting the important points in symptomatology and pathology of genito urinary diseases with a like outline of treatment and surgical procedures. It is based on the authors experience in private work and in his service in the Massachusetts General Hospital. Each chapter ends with a selected bibliographical reference that greatly enhances the volume's value.

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lished in the Ecole de la Legion d'Honneur, at St. Denis, quite close to Paris, where many of the wounded from Chateau-Thierry were brought.

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Tuberculin "B. F." (Bouillon Filtrate)—Lederle.—Marketed in vials containing 1 Cc. For a description of Tuberculin Denys, see New and Nonofficial Remedies, 1919, p. 280. Schieffelin and Co., New York.

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Swan's Mixed Acne Bacterin (No. 41)—Marketed in 6-Cc. vials, each cubic centimeter containing 25 million killed acne bacilli and 500 million killed staphylococcus pyogenes albus. For a discussion of "Acne" vaccine, see New and Non-official Remedies, 1919, p. 296. Swan-Myers Company, Indianapolis, Ind.

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Radium Treatment of Arthritis Deformans.—According to New and Nonofficial Remedies it has been claimed that radium emanation is of value in all forms of nonsuppurative, acute, subacute and chronic arthritis (syphilitic and tuberculous excepted), in chronic muscle and joint rheumatism (so-called), in arthritis deformans, in acute and chronic gout, etc. Its chief value is in the relief of pain. Curative results seem to be lacking. (*Jour. A.M.A.*, April 26, 1919, p. 1245).

Iodex.—Iodex is a black ointment marketed by Menley and James with the claim that it is a preparation of free or elementary iodine minus the objectionable features that go with free iodine. As a result of an investigation of Iodex made in the A.M.A. Chemical Laboratory, the Council on Pharmacy and Chemistry reported in 1915: 1. The composition is incorrectly stated; the actual iodine content is only about half of that claimed. 2. The action of Iodex is not essentially that of free iodine, although that is the impression made by the advertising. 3. The assertion that iodine may be found in the urine shortly after Iodex has been rubbed on the skin has been experimentally disproved. As the manufacturers of Iodex still persist in their claim that the product contains free iodine, the A.M.A. Chemical Laboratory has again examined Iodex. It reports that Iodex gives no test for free iodine, or, at most, but mere traces. (*Jour. A.M.A.*, May 3, 1919, p. 1315).

Tannin Albuminate Exsiccated-Merck Tablets, 5 grains.—Each tablet contains 5 grains tannin albuminate exsiccated, Merck. Merck and Company, New York. (*Jour. A.M.A.*, March 1, 1919, p. 653).

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Original Articles

THE ADMINISTRATION OF CONCENTRATED ARSPHENAMIN AND ITS RELATION TO THE NITROID CRISIS.

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FLINT, MICH.

Untoward effects, following the intravenous injection of the various organic preparations of arsenic have been reported and described so frequently that the subject has become one of importance, since the use of arsphenamin or neo-arsphenamin has become nearly universal as one of the principal agents in the treatment of syphilis.

When due care is exercised in the preparation of the patient for treatment, and of the solution used, it is not usual for the so-called nitroid or anaphylactic reaction to occur in more than three to four per cent. of cases treated. In most instances such reactions are comparatively mild and transitory in nature, however it must be born in mind that it is possible for dissolution to occur and at best, the patient is subjected to the possibility of an uncomfortable illness.

Reactions vary somewhat in time of onset, and considerably in degree of intensity. The usual symptoms, as previously described by a number of writers, are an immediate reddening of the cheeks and ears, increased pulse rate, a sense of fullness in the head, and some dyspnoea. More pronounced crises show an intensification of these symptoms, together with marked air hunger, trembling, syncope, swelling of the lips and tongue, injection of the conjunctivae, and erythematous lesions on face, limbs, and body. A secondary reaction termed "Serous Apoplexy" (1), which in reality is an acute hemorrhagic encephalitis has been described in which symptoms develop three or

four days subsequent to injection. The patient suddenly shows evidence of cerebral disturbance, by extreme irritability, followed frequently by epileptiform seizures. Later there is facial congestion, a rise in temperature, with coma, and death as a rule follows in a few hours.

No inconsiderable number of theories have been offered to explain the cause of these anaphylactic reactions. Among the first to offer a solution to the problem was Wechselman (2) who believed that molds, dead bacteria, or dissolved protein in the water, used to dissolve the arsphenamin, was the cause. Ehrlich (3) thought a salvarsan derivative, paraminophenyl-arsenoxid, the casual agent, while another cause was thought to be an unidentified impurity in the drug (4). It has also been explained that the reactions are of chemical origin, due to the solution injected, rather than an idiosyncrasy displayed on the part of the patient, and that insufficient alkalization is of prime importance. With insufficient alkalization, a toxic monosodic compound is said to be formed which acts upon the bulbar center (5). It has further been offered that adrenal insufficiency predisposing to vasodilation, might have a bearing on these reactions, while another explanation for these vasodilations is an increased protein content of the blood of certain syphilitics, especially globulin, which in combination with arsphenamin, produces an intravascular precipitate (6). Certain methods of technic in the administration of arsphenamin are frequently cited as predisposing the patient to a reaction. Among these may be mentioned the employment of too large dosage, too rapid injection and too concentrated solution. It is the purpose of this article to take up more particularly the discussion of the latter, in the light of the relation of these reactions to the mode of administration.

None of the explanations, so far given have entirely explained the phenomenon. They have not shown to entire satisfaction, why, out of a series of cases treated with a brand of the

same serial number, only certain persons react. Nor why certain persons will react to properly alkalized solutions, due to intravascular precipitation, when formerly it was considered to occur only with the use of an acid solution. That if due to a true anaphylaxis, why reactions occur frequently after the first injection. Unsatisfactory, and divergent as these explanations of the nitroid crisis may be, they have brought about the generally accepted plan of sufficiently alkalizing the solution to be injected, while molds, dead bacteria or dissolved protein are no longer looked upon as capable of producing other than delayed symptoms, and their presence is generally avoided by the use of freshly bi-distilled water. Despite the fact that it has been shown by Don Joseph (7) that properly alkalized concentrated solutions given rapidly, produced no bad effects other than occasionally seen when dilute solutions were administered slowly, considerable has been said concerning the dangers accompanying the injection of a concentrated solution. In certain clinics where large numbers of syphilitics are treated, and time is an important factor, a technic, whereby a high degree of concentration may be employed, in a short period of time, without endangering the patient to unnecessary liability to subsequent sequelae, is highly desirable. Bearing this in mind, such a technic has been followed successfully in the treatment of syphilis in the Base Hospital at Camp Shelby, Miss. It is briefly as follows:

Care is exercised to insure that the stomach is empty, and a cathartic given to eliminate as much intestinal residue as possible. Possible contamination with dissolved proteins is guarded against by carefully sterilizing all apparatus in freshly bi-distilled water. All water used in dissolving arsphenamin is bi-distilled and carefully sterilized in an autoclave. A new solution of 15 per cent. sodium hydroxide is prepared for each day's work from freshly bi-distilled water, and sterilized in an autoclave. These precautions having been taken, arsphenamin is dissolved in the proportion of 0.1 gm. to 4 c.c. water, and carefully alkalized, the final test for alkalinity being made with litmus paper, and not judged by the appearance or clearness of the solution after the precipitate has been dissolved. Sufficient distilled water is now added to make the proportion of 0.1 gm. arsphenamin to 5 c.c. water. After straining through sterile cotton, the solution is ready for use. By the use of a 30 c.c. syringe, the

injection into the vein should require not more than one minute.

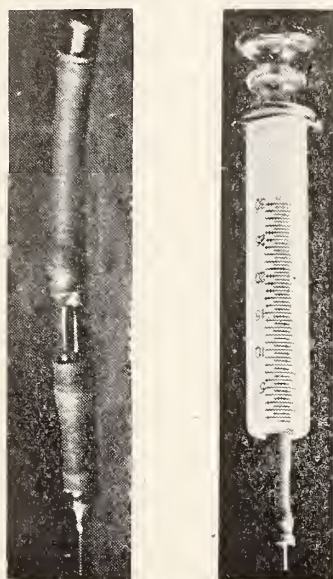
The apparatus found by the writer to be most useful in injecting concentrated solutions is very simple in design and intended to be as free as possible from all unnecessary parts that would consume time in care and operation. It consists of a 30 c.c. graduated glass syringe to which is attached a short piece of rubber tubing provided with a friction connection. To this is connected another piece of tubing about three and one-half inches long, to which the needle is attached, a glass window being placed posterior to the needle, to indicate when the vein is entered, by the backflow of blood. By having a number of these detachable tubes and plenty of solution, as much as 10 to 15 doses may be prepared at one time, a large number of injections may be made in a comparatively short time, for if the backflow of blood is not allowed to pass back of the window, the syringe is not contaminated, and may be used for a number of patients, simply by pushing on a new tube for each injection. For this apparatus, it has been found best to use a very small needle, preferably No. Twenty-four.

The use of a small needle has the following advantage: 1. It causes practically no pain to the patient, enabling him to keep the arm perfectly quiet, and adding greatly to the assurance that the vein will be entered during the first attempt. 2. Practically no injury is sustained by the vein wall. 3. The danger of leakage of blood at the point of puncture with the resultant hematoma, and occasional painful arm due to arsphenamin irritation, is practically entirely eliminated.

Arsphenamin solution is very irritating when allowed to escape into the subcutaneous tissues, and is especially so in the case of a concentrated solution, and much damage may result, as well as producing unnecessary pain to the patient. This may be avoided by the use of a small needle and the exercise of care, on the part of the operator, to make sure he has entered the vein before applying pressure to the syringe plunger.

From the correlation of results obtained in the administration of 3929 injections by the concentrated method, it is apparent that the proportion of nitroid crises is not greater than obtained when other methods are employed, in fact nothing was observed to show that the concentrated solution acted in any way toward the precipitation of a crisis. Had there been a causal relation, it would have been reasonable

to expect a whole series of patients to react to a batch of solution, rather than an occasional sporadic instance. Milian in 1912 reported reactions in 5 per cent. of his cases. Beeson's (8) experience has been that it occurs in three per cent., while Berman found it to be approximately 3.6 per cent. Typical reactions occurring in this clinic have numbered twenty-seven, manifested by swelling of mucous membranes, dyspnoea, pain in the head, a sensation of chilliness and nausea. Ninety-eight were observed to show a slight increase in pulse rate, flushing of the face, and a sense of fullness in the head. The latter cases were of such slight degree of severity, and so transitory, that therapeutic measures were not required. In other



Apparatus for injection of concentrated arsphenamin solution.

words typical reactions occurred in the approximate proportion of 0.7 of one per cent., and slight disturbance in 2.4, giving a total of 3.1 per cent. In no instance was there a reaction of the encephalitic type.

Of various therapeutic agents used in the treatment of the nitroid crisis, adrenalin, atropin, and ergot have been found useful. Stokes (9) strongly advocates the use of atropin as a prophylactic measure, and has had success in preventing crises, in cases known to have reacted, by the induction of anti-anaphylaxis. Adrenalin is the only therapeutic agent that has been used in this clinic. It is the invariable rule to keep a small syringe full on the instrument table, when injections are made, to be used should an emergency arise. In cases known to be susceptible to arsphenamin, it is considered a good practice to employ adrenalin

as a prophylactic, rather than as a therapeutic measure. To obviate the discomfort occasioned by the subcutaneous injection of adrenalin, it may be added directly to the arsphenamin solution and injected intravenously with the drug, one minim being sufficient. No untoward symptoms have been noted from the use of adrenalin in this manner, and its action is nearly instantaneous, as manifested by the blanching of the patient's skin.

SUMMARY.

1. There is still a variance in opinion as to the cause of the nitroid crisis. Recent studies tend to show that it is of chemical origin due to the action of arsphenamin upon the protein content of the blood of certain syphilitics, causing an intravascular precipitate either of the drug, or of the colloids of the blood plasma.

2. The rapid injection of a concentrated solution of arsphenamin, properly alkalized, is apparently not a causal factor in the production of the nitroid crisis. It affords a safe and convenient method for the treatment of a large number of patients in a relatively short period of time. The results obtained by this method, compare favorably with other methods in the proportion of crises observed.

3. Adrenalin is an apparently satisfactory therapeutic agent. Its greatest use would seem to be in its employment as a prophylactic measure, rather than as a means of cure. It may be used intravenously with arsphenamin.

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DISEASES AND TREATMENT OF THE PROSTATE GLAND.*

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The prostate gland is a part of the generative system and its function is that of secreting a substance which acts as a sustainer and carrier

*Presented before the Michigan State Medical Society, Detroit, May 22, 1919.

medium for the spermatozoa. The gland is developed from several series of embryonic buds which form its several lobes. The activity of the gland is confined to adult life; during that time it is seldom subject to any pathologic processes requiring surgical treatment. An inflammatory process, frequently associated with a specific infection in other parts of the genitourinary system, may occur and at times may progress to the point of suppuration, although this condition is rare compared with the frequency of infections elsewhere in the body.

Tuberculosis may also involve the prostate during early adult life either as a primary focus in the gland or secondary to a lesion in the epididymis or kidney. The question of whether tuberculosis of the prostate should be treated surgically has been widely discussed, because of the fact that when the condition occurs as a secondary process it usually subsides after the primary focus has been removed.

Several years ago Alexander advocated the removal of the inflammatory lesion when it is associated with specific infection, but his opinion has not received general approval, largely, I believe, because most patients recover from the ordinary, conservative procedure. It may, therefore, be said that except in cases of suppurating inflammatory processes it will seldom be advisable or necessary to operate on the prostate during early adult life.

The prostate gland is of special interest surgically at the period in which it is becoming physiologically inactive. At this time the pathologic condition which so commonly occurs in the gland, and which is so peculiar to it, begins to develop. This so-called adenomatous hypertrophy is probably present in almost all men past 55 years of age, although it produces symptoms only in persons in whom the enlargement interferes in some manner with the mechanism of urination. Usually the first change that is noticed is urination during the night, and this may be the only indication. I am firmly convinced after careful questioning and after studying the condition of men who come for examination for various complaints at this time of life, that most men who reach 55 to 60 years of age have some enlargement of the prostate. This is evidenced by frequency of urination or by enlargement or change in the prostate which may be discovered on rectal examination.

Prostatic hypertrophy has often been attributed to some infection, resulting in urgency, frequency, and difficulty of urination. Usually

these symptoms first appear at intervals, later they become more frequent, and finally they are continuous. Complete retention which may occur early in the course of the trouble is often associated with some other condition such as an infection in the form of a cold, in the nasopharynx. Ordinarily the first symptoms are not at all serious and may cause little if any inconvenience. Before long, however, incomplete emptying of the bladder and an increasing amount of residual urine becomes evident. This condition with its resultant changes, is the most serious feature to be considered in dealing with these cases. Just how these secondary changes are brought about has not been definitely shown, although it is well understood that with the increase of symptoms and the amount of residual urine the disturbance in the functioning capacity of the kidneys increases. This change in the equilibrium may be so gradual that the patient is scarcely aware of his condition while in reality through gradually diminished kidney function, he has almost reached the uremic state. The decrease in renal function may be most marked in cases in which the local bladder symptoms are not pronounced; in dealing with the condition this point must be thoroughly understood in order to avoid unpleasant surprises. Because of this much stress has been laid on the importance of preoperative treatment by those who have had the largest experience. Patients with uremia do not withstand operations well; the tendency to uremia must be overcome before any surgical procedure should be considered. Not all patients reach this state before they come for consultation and therefore all patients do not require preoperative treatment, but if the amount of residual urine is considerable and the kidney function is reduced, pre-operative treatment is certainly most important; it not only changes postoperative convalescence and complications but also very greatly reduces the mortality following operation. All credit is due the laboratory worker for devising an accurate method of determining the renal function, for by these tests we are able to follow cases through the preparatory stage and to determine definitely when the function has returned sufficiently to make surgical treatment safe. The general physical state of the patient is of great importance as other considerations, aside from diminished renal function, may contraindicate any operative work. In my opinion, an estimate of the blood urea is necessary; if the urea is excessive any operative procedure is contra-

indicated even if all other findings seem to show that conditions are satisfactory.

During the preoperative care which consists in carrying this patient through the state of reaction following the withdrawal of residual urine by urethral catheter, or by a suprapubic drain, a perfectly characteristic reactionary condition occurs. The patient becomes weak, is unable to sleep or rest, is very nervous, loses weight, and is altogether miserable. The specific gravity of the urine drops; the phenosulphonephthalein output and blood urea are often evidence of disturbed renal function. The reaction usually subsides in two or three weeks although it may require much more time. At this stage of the treatment the patient is in much better condition than he has been for years and the obstructing prostate is removed purely for the relief of the mechanical disturbance in the urethra and bladder. I emphasize these general changes in the patient with adenomatous hypertrophy of the prostate since they are characteristic of this type of case, probably because the condition produces more mechanical disturbance than some of the other pathologic processes which must be considered.

In contrast to the inflammatory prostatic changes occurring in younger men, which are not ordinarily considered surgical, is the inflammatory prostatic disease occurring in older men which is more often benefited by surgery than by any other form of treatment. Possibly the prostatitis of older men is a continuation of an earlier process; sometimes the history of the case will bear this out, although a distinct group of persons who have definite prostatitis after middle life present no history nor evidence of an inflammatory process in early life. This condition is sometimes described as a prostatic bar or a small hard prostate. In some instances calculi are deposited within the gland acini and a calcareous prostatitis is the result. Frequently a marked cystitis and at times a pyelonephritis, possibly an old inflammatory process in the epididymis and testicles, are associated with the condition. The bladder is usually inflamed, trabeculated and thick-walled, and may contain one or more diverticula. The patient complains of considerable pain in the perineum and of symptoms of cystitis. Usually there is not a great amount of residual urine. Such patients require pre-operative treatment not primarily because of the residual urine, but to clear up the infection as much as possible. Frequently local treatment with prostatic massage is given, but in our experience permanent re-

lief is not often obtained; much greater benefit follows suprapubic removal of the inflammatory tissue. The transvesical operation is especially indicated in these cases as it is difficult to remove the inflammatory scar tissue, and the sphincter muscle may be injured if the perineal operation is employed. Chronic prostatitis, with or without calculi, does not receive the consideration from a surgical standpoint which I believe it deserves. Temporary relief in these cases is obtained by conservative methods of treatment, but all the symptoms return when the treatment is stopped. In most instances complete and permanent relief will be assured by the more radical surgical measures.

Another condition frequently associated with pathologic changes in the prostate is diverticulum of the bladder. I am convinced that the condition occurs more frequently than we have supposed and that we will recognize the condition much more often if we are on the lookout for it. Many of the cases of so-called protracted cystitis not relieved by prostatectomy are really cases of diverticulum of the bladder. In any case in which there is a great deal of infection in the bladder and especially if the cystitis is of the foul smelling type we may expect to find a diverticulum, and only by the removal of the diverticular sac as well as the prostatic obstruction will complete relief be afforded. Removal of the obstruction and drainage of the diverticulum will not suffice.

The present results of the surgical treatment of malignant disease of the prostate are not gratifying. This condition differs entirely from other pathologic lesions in the gland especially since it almost invariably originates in the small posterior lobe of the gland and its extension is upward beneath the bladder and between the seminal vesicles before it involves other parts of the prostate or the bladder itself. For this reason the disease may become quite extensive before any urinary symptoms are noted. Many cases are on record in which a carcinoma of the prostate has been known to exist for a number of years without producing symptoms. I have observed several untreated patients over a period of more than five years who were in comparative comfort.

In view of the fact that cancer of the prostate originates in the posterior lobe in close association with the anterior part of the rectum, that the disease is an infiltrating process which is not encapsulated and a complete removal of all sphincter control of the bladder is necessary thoroughly to eradicate the disease, that the

cancer in itself may exist for some time without producing much if any discomfort, and that radium applied by the radium needles will probably greatly prolong the period so that the patient may live many years in comfort, it is probably best to consider cancer of the prostate as not satisfactorily amenable to radical surgical procedures. A certain number of patients with cancer of the prostate do have difficulty with urination, and this may be due to the cancer enlargement itself, or more likely, to an associated adenomatous hypertrophy. In either event if there are no other contraindications it is advisable to remove the adenomatous enlargement or enough of it so that urine may be expelled easily; the operation should be followed by radium treatment. Cancer of the prostate, we believe, should be operated on only when it interferes with urination; our results, both with regard to the comfort and the convalescence of the patient following radical operation do not warrant its employment. Some patients are undoubtedly greatly benefited by radium.

Regarding the technic of the operation for the removal of enlargements in the prostate: We are endeavoring to take the operation from the realms of the rather blind and rapidly performed operation to one performed as much as possible under the guidance of the eye with a technic as definite and accurate as that of any abdominal operation. It is difficult in all patients to expose the prostatic region, and especially in those who have been operated on before. In the great majority of cases the area can be brought into view, however, so that the operation may be carried out very accurately. The entire enlargement can be enucleated and any tags removed. Bleeding which is one of the most important features in the technic, can usually be absolutely controlled in doing the open operation. In many instances the bleeding comes from a single vessel and a single ligature will make the field dry. The old idea that the loss of blood is good for such a patient no longer holds. There is less tendency to infection in the open operation; the tissues are protected and less traumatized. The operation of prostatectomy must be considered a major operation and, as in other operations of this degree, the more accurate the technic the more satisfactory will be the result.

ADDRESS OF THE CHAIRMAN OF THE
MEDICAL SECTION MICHIGAN
STATE MEDICAL SOCIETY
ANNUAL MEETING,
MAY, 1919.

WALTER J. WILSON, JR., M.D.
DETROIT, MICH.

I am glad for this opportunity as chairman of the Medical Section to say a word of welcome to the Medical men returned from Army service.

The great debt which this country owes the medical profession can never be repaid. Hundreds of medical men left lucrative practices and went into the army on salaries merely fractions of their former incomes.

In this financial sacrifice which they have made, none deserve more credit than the members of the families who remained at home. As Secretary-Treasurer of the Patriotic Committee of the Wayne County Medical Society under whose direction a sum of about \$13,000.00 was raised from the members, I had a very good opportunity to observe the spirit which animated those who were left at home. It was necessary in some instances on account of the impossibility of sudden readjustment of financial affairs, to advance certain sums to help out the family income. In most cases the matter was brought to our attention through some friend, no direct application being made to the Committee. We never found the family to accept these allowances after actual particular need had passed. We feel that in this the families of the Doctors have exhibited great patriotism in their self-sacrifice and that they have universally risen to the necessities of the occasion.

The chief sacrifice, however, for the physician was not the financial one. Many of the men who entered the service and were not reserve officers before, were well on in middle life. To them it was especially difficult to place themselves under the discipline of the army. The physician holds an unique position in the community. In the matters with which he has to do, his decisions are for the most part accepted as being beyond the possibility of appeal. The older man gets his work largely on the strength of the work which he has done before, which causes his clients to feel that in the particular kind of work which he is doing that there is no one that can do the work as well. Not only so but as a result of experience, certain forms of treatment by this time have become settled methods of practice. Somewhat according to

temperament and somewhat according to necessity on account of the kind of work done, the physician's daily habits such as arising from bed, hours of work, hours of leisure, hours for retiring had by a sort of evolution resulted in a certain fixed program. In army service the medical men had to learn to defer in their opinions to their superiors. And in methods of practice in the army, orders had to be obeyed even though they came from men who in civil life had less extensive experience and had not attained as high a rank in the profession which was in some cases a rather humiliating experience. It was not always easy to become adjusted to new positions which called for different qualifications from those required in civil life. However, for the most part the new conditions were accepted with grace and with willingness to conform to military procedure and as time went on by a sifting process the men gradually in most instances were able to obtain assignments for which their ability and experience in civil life especially suited them.

To those attached to base hospitals came the chance to study an unlimited amount of material, the necessary admixture of the various elements of our population coming from every quarter of our nation resulting in outbreaks of epidemics of various acute diseases on account of the necessary exposure of many who from their previous location had never been exposed and therefore had never acquired the immunity which comes from having had these diseases which are largely experienced in childhood and become far more serious when contracted in adult life. Special opportunities were at hand for the study of measles with its various complications especially pneumonia, acute cerebro spinal meningitis, pneumonia, various heart diseases especially occurring as complications as well as those types occurring on a neurotic basis, and influenza with its complications. The statistics which have been compiled as they are the result of careful clinical work accompanied by the extensive use of the X-ray and laboratory work in bacteriology and in pathology of which unfortunately there was an abundant post mortem material incident to the necessarily high mortality rate in many of these diseases, will be the authoritative reference in work along these lines for years to come. Fortunate indeed have been the physicians who have had the opportunity to study and direct the treatment of these cases, as their skill has been greatly increased and experience broadened so that they will naturally return to their respective

communities as the leading consultants.

One of the greatest rewards which will come to the medical men who have been in the service is this experience which could not have been gained by a life time of ordinary clinical observation. Moreover the satisfaction which comes from having taken part in this the greatest war of all times will help to take away the sting of the troubles which come in later life. Not only so but this service will be an inspiration and most valued heirloom to transmit to those coming after. The fact of having had this experience will also be a very large asset in professional prosperity in the coming years if rightly used. Provided especially in the case of young men, it is used as a foundation upon which a superstructure is carefully reared, it will be a great help. On the other hand if it be considered the end and hereafter the fortunate possessor of such an experience fails to study properly his cases and fails to build a new experience with the same care that he would do his work in the army he may be unfortunate enough to fall behind those more industrious who were not able on account of some peculiar family or financial considerations to share with them their service in the army.

In order to show our gratitude to those who have served their country, those of the profession who have remained at home should in every way give a helping hand to those who have been in service, referring work to them and calling them in consultation and in every other way assisting them to reestablish themselves in civil practice.

I can do no better in closing than to wish our colleagues returning from military duty the same success in civil life which they have attained in military service.

THE FLIGHT SURGEON'S RELATION TO THE FLYER.

GEORGE E. FROTHINGHAM, M.D., F.A.C.S.

Late Major M.C., U.S.A.

DETROIT, MICH.

If this greatest of great wars has done nothing else, it has put an effective quietus on the "Superman." "As a clinic, the war was a failure" writes an authority. No superman of medicine or surgery has been produced. But we might safely add that as a graveyard for reputations and theories made in Germany, the war has been a tremendous success.

When flying emerged from the circus stunt class and took its place as a practical wing of

the Army and Navy, the Superman cult was in full cry: It was argued that the bird man must of necessity be a superman with the keenest intelligence, the trained mind, the super eyes, ears, heart and hand, and that the college trained athlete came the nearest to filling the bill.

I was assigned as Officer in Charge of the Physical Examining Unit which we established at Harper Hospital in connection with the Eye, Ear, Nose and Throat clinic. We were to pass on the physical qualifications of candidates, while the representative of the Signal Corps, a famous foot ball player was to pass on their mental, educational and athletic qualifications. Time and again, the Medical Unit thought it had picked the ideal flying man, only to have him turned down by the Signal Corps representative. And in turn, the Unit turned down men whom the famous foot ball player thought would make great flyers. We made 1,146 examinations and we were all tremendously interested in the outcome. When General Lyster and Col. Crabtree asked me to take up the Flight Surgeon's work, I felt that now I would have an opportunity to study the flyer from his initial examination to the very battle front.

The Commanding Officer of the Medical Research Laboratory at Mineola was Colonel W. H. Wilmer, a man of broad experience, of the keenest intelligence, a man wise enough to recognize that the fact of today might prove to be the error of tomorrow.

The Flight Surgeon was an innovation in the medical corps of the Army and like most innovations did not meet with universal approval. At Mineola, we were very bluntly told that every Flight Surgeon, must of necessity be a pioneer and that he must work out his own salvation. His duty was to keep the flyers up to concert pitch and ready for work. He was given a ten commandments of don'ts'. Thou shalt not get in wrong with thy Commanding Officer, nor with thy adjutant, nor with thy Flight Commander, nor with thy Post Surgeon nor with thy Physical Director nor with any one else on the Flying Field be he cook or mechanic but above all thou shalt not get in wrong with the flyers under thy care.

Selfridge Field was a Post Graduate School for flyers, observers and aerial gunners. When men arrived at this field, it was assumed that they had finished all preliminary work and were now ready to be trained in actual combat work. This was to be the last stop before the hop off. Rumor, that ill-natured jade of the forked tongue, had spread the gospel that the

Flight Surgeon had come not to save but to disqualify men; that the rebreather was an invention of Satan to ground flying angels and that the Flight Surgeon was the particular imp, slated to execute the order. The flyers were respectful and polite but their whole attitude was one of "show me." I invited them to meet me at my hotel in relays of fifteen, where we frankly discussed every phase of the matter. I made it very clear that the government had invested thousands of dollars in each man and that the Flight Surgeon was here to keep them in fighting trim, so that when the hour sounded, each man would be ready. Mutual confidence was established and from that day to this, we have been good friends and comrades.

The pilots on Selfridge Field represented a wide range of human material and I did not find one who might be even a second cousin to the Superman, in all the hundreds who passed through my hands. They were just plain, frank, good hearted American boys, from all sections and from all ranks who did their work and did it well. There was the son of a circuit rider from the mountains of Tennessee, himself an ordained minister, long, lean, lazy gaited, with a laugh which was a joy and a dialect which was delicious. He absolutely refused to mistake activity for usefulness but, when he took the "joy-stick" in his hand and the fight was on, he was the mountaineer, cunning, eagle eyed, quick as a cat and the pilot who tried to out jockey him had another guess coming. At the other end of the human pole, was a western man, 28 years old. Quick of movement, sharp of tongue, he had no illusions. Life had been one long battle field for him. He had been a prominent figure in labor circles in a great western mining strike. He had seen men and women die for a cause. He thought he was a citizen of the world, but when his country went in, he forgot that he was anything but a rabid American. He was not reckless. He hated the taking of chances just to show off, he was eager to get over but, when the armistice was signed, he was ready to go back to work. There was a lovable school boy just 19 who would come down after doing hair raising stunts and play with a little gray kitten for half an hour. There was the school teacher from the far west, slow of speech, methodical, old maidish in his exquisite neatness, yet he was one of the good flyers and one of the best instructors. Another extreme was a brilliant New York newspaper man, a recognized art critic, afraid of nothing in the heavens above or the

earth below. This man flew automatically. He had analyzed every trick and turn and yet he had absolutely no sense of direction, when pulling off stunts. Given an order to do a tail spin, he executed the order instantly but instead of coming out after one spin, he was apt to do a half dozen before recovering himself. He recognized his failing he was perfectly willing to take all the chances for himself but he didn't want to risk the life of an instructor or observer. We worked together for hours trying to locate the trouble and just as success appeared, the war stopped and the young man went back to civil life.

There are two types of flyers. Neither one is a superman. The intuitive flyer takes to flying as a duck to water. He unconsciously does the right thing. Ask him to explain why he does a thing and he will say he just feels it. The mechanical flyer knows how to do every trick. He can give a reason for every move but strange as it may seem, in a pinch, it is the intuitive flyer who gets results when the man who really knows fails.

There is no royal order of flyers. In mental, moral and physical qualifications, they measure up to the best of men in other branches of the service. At the beginning, he heard so much of his being a superman, that in time, he commenced to think that very likely he was a superman. High flying, literally or metaphorically, is not conducive to calm nerves, equible temper and good digestion. A favorite name for flyers was that given them by a rollicking observer. He called them "Temperamental Tommies." The flyer needs plenty of good, plain, substantial food, plenty of sleep, good sharp physical exercise and a quiet life, if he is to do his best work. A night off is conducive to a fall next day which too often spells death. Flyers go stale more quickly than men in any other branch of the service. Fatigue shows itself first in the heart action and that is where the rebreather does its best work.

There was one young man, a noted foot ball player, who made a spectacular landing, bringing himself and his observer to safety after a mid-air collision in which both occupants of the other machine were killed. This man showed the utmost nerve, coolness and skill, yet when he was put on the rebreather, he fainted in a short time. After some days rest and treatment, he was again tested with similar results. He was given a furlough, went to his home in New York. His father, a physician, made an exhaustive examination, and wrote me that he

could find no heart lesion. The pilot was examined by three noted heart specialists who submitted elaborate reports with charts, all agreeing that no heart lesion could be found. The rebreather test was given again and again he showed a weakened heart. He is permitted to fly a single seater and I am keeping in touch with the young man to see results. Latent heart trouble may defy careful examinations but, if the rebreather shows a lesion, I feel morally certain that in time the lesion will develop. Another puzzling heart case was that of a young man of twenty-five. His relatives were all fighting on the Alsatian front and he was most eager to get over. He had a record of three hundred hours flying without an accident. Ordinary examinations showed a normal heart but the rebreather showed a lesion. He too, took up his case with eastern heart specialists and again their verdict was a normal heart. While this case was under observation, the armistice was signed. In a letter, the flyer tells me that he has been re-examined at Mineola Research Laboratory but has not as yet had a report.

The normal ear is affected for a short time after a long flight and more particularly, if the observer has been practicing aerial gunnery. After a rapid descent, we have found the tympanic membrane congested. This congestion usually passes off very quickly but in some cases it lasted for from twenty-four to forty-eight hours. I found no permanent injury to the ear which was induced by flying.

The eye does not seem to be affected, although in two cases, flyers claimed that their eye sight had been improved. I think their opinions were based on the fact that at the original examination, their eyesight was reported as normal, while my examination gave the actual vision.

An aviator who marries is an aviator who is marred, at least for a time and since unfortunately the flying game is written in the present tense, it might as well be forever. In one case, the pilot had been noted for his ability and daring. He had done brilliant work. He married and from being a daring, dashing pilot, he became the most cautious. The consensus of opinion of both officers and pilots was that marriage had made him so fond of life that he was in dire danger of losing it.

What causes accidents on flying fields? I cannot speak with any authority on cadet training fields for no cadets were trained at Selfridge. But here the answer to the question was faulty ships by the pilots and faulty pilots

by the mechanics responsible for the care of the ships. In my judgment, based on observation, confidential talk with flyers both during the war and since I have been out of the service, I believe that out of every ten accidents, four are due to the plane, one to the condition of the pilot and the remaining five to a desire to show off and to pilots devilling one another in the air.

You have seen the automobile driver who likes to see how close he can shave another car without hitting it. The same spirit actuates the pilot. If he can scare the other fellow, he will do it. If a pilot is regarded as a bit conservative, his fellow pilots will stay up nights to plan tricks to be played on him the next day. They mean no harm. Neither does the yachtsman who crosses the bow of a freighter, or the motor car driver who tries to out race a train. Neither does the jockey who forces his opponent into a fence. Human nature is the same whether sailing an uncharted sky or racing round a fence bound track. The hero is the man who gets away with it. Pilots have told me these stories in my capacity as father confessor and personal physician. It was a ticklish situation to handle. Here were men being trained to fight to the death. It was a war in which no quarter could be asked and none could be given. If men were curbed, if the most careful and cautious were to set the pace for the most venturesome, the future held nothing but defeat for our air men. Flight Commanders were called on for fighters not actors. His men must be trained to meet every emergency. If they could not successfully meet a trick played at home, what hope for them on the front.

The flyer is a natural actor. He certainly likes to show off and as one pilot put it to me, when I remonstrated with him for flying so low in Cadillac Square, "Why Major, the people wanted a show and it surely was up to me to put on the scollops." One of the pilots had landed in a huge field. There was but one tree on it and that could not possibly interfere with his take off. There was a large crowd around. As he was about to go, the pilot turned to a friend and said, "Watch me give them a few thrills." He aimed straight for the tree, expecting to zoom up to a chorus of ohs and ahs, but a little puff of wind upset his calculations,

a wing caught in the branch of the tree and down he came. He knew better. He had been taught better. He knew that he was breaking rules but there was the crowd, there was the tree, there was the circus thrill and the pilot was young and fearless, and dashing and fool-hardy.

This Country must have an Air Service of the very first rank. It must have its own trained medical corps to help select and care for the flyer. Since all flying is as yet experimental, the building up of an Air Service will be costly in men, money and material. Flying is not for the superman alone. It calls to youth. Not only the youth in years but youth in spirit. Its personnel must be made up of men of dash, nerve, and unquestioned courage. Its medical corps must be made up of men who will understand the ramifications of the youthful spirit, whether it be 19 years old or 29 years young. Men who will understand its wild enthusiasms, its desire for applause, its impatience with things that are. The spirit of youth dips its pen into the ink of the future. Tomorrow is its delight. Yesterday belongs to the dead.

DISCUSSION.

DR. WALTER R. PARKER (Detroit): I want to put in a word for the flight surgeon. Fliers were supposed to be superhuman. At first they resented this, but later demanded it, and the thing was getting pretty well out of hand when a regulator was sent over in the person of the flight surgeon. We know about it in this country and from reports from the other side. The morale was infinitely improved almost immediately, and this was due entirely to the wisdom, the foresight and friendly interest that was put into the work through the flight surgeon. I might say, incidentally, that the reports from Washington put Doctor Frothingham at the top of this list of those who knew how to handle their men.

DR. C. H. BAKER (Bay City): A paper of this kind seems to have such general interest that I wish it might appear before the *Journal* is published and that perhaps a resume might be made for the prints of the State in order that the lay public might know something about the protective side, which has been so well handled. There are matters of great interest in this paper to anyone who has been at all interested in the subject of flying—as everybody has been. I wish the Doctor could be persuaded to write it himself or get someone to do this, and publish it in the State papers. I make that as a motion.

(Motion seconded and carried).

INTRAOCULAR WAR INJURIES.

R. D. SLEIGHT, M.D., Late Captain M. C.

WILFRID HAUGHEY, Late Major, M.C.

BATTLE CREEK, MICH.

War wounds and injuries to the head, the result of the war just past, have caused frequent eye involvements even when the external appearance of the eye was normal. The explosion of shells, the discharge of big guns, the explosion of grenades and the jar due to direct hits, intense commotion of the air, fractures of the skull, or the maxillae, the malar or orbital arch, such are the injuries which may and have produced lesions of the eye which are of interest to the Army Ophthalmologist.

LaGrange in a large service has found that eye lesions produced as a result of the injuries or the conditions mentioned, follow a certain definite manner; that laws may be written, as positive as any clinical law, which govern these ophthalmic changes, by which if certain parts of the head or face are injured, certain types of eye injuries will follow and the severity of the eye change will be more or less in direct relation to the severity of the injury or the violence of the contusion. In this paper we shall outline the laws proposed by LaGrange and make a few comments upon them.

FIRST LAW. Injuries to the inner coats of the eye may be caused through commotion of the air from the explosion of a shell at some distance. There are also well authenticated cases of luxation and subluxation of the lens, and of traumatic cataract, caused in this way. The fundus lesion usually seen is a rupture of the choroid or retina or both at the posterior pole.

This law governs a group of injuries caused by a commotion of the air. The eye ball is shaken in the same manner as the air commotion will shake a building, the violence depending upon the severity of the air commotion or the nearness of the source of the disturbance. The lesions are chiefly at the posterior pole of the eye, are variable in extent but are chiefly located in the macular or the paramacular region. The uveal tract being the more delicate structure is the first to be injured, therefore, we find that in this group of eye injuries produced by commotion, macular choroidal rupture is most frequently found. We occasionally also have retinal hemorrhage and may even have the vitreous more or less tinged with blood.

SECOND LAW. Injury to the orbit by traumas of the frontal region and radiating fracture of the orbital vault, usually involve the optic foramen or sphenoidal fissure and cause lesions of the sensory, motor, and optic nerves, the eyeball itself being uninjured.

The second group of injuries produces a different type of visual disturbances, which may be explained by functional disturbances of the nerves supplying the eye and adnexia, also by injury to the optic nerve itself. These injuries being the result of radiating fractures of the orbital vault and direct extension to the nerve. It is also possible to have injuries, as a result of these same disturbances, of the second, third, fourth, fifth, sixth and seventh Cranial nerves. One or more or all of these nerves may be injured and we may have an atrophy of the optic nerve or a loss of motility and sensation or separation of the eye from its trophic nerve supply.

THIRD LAW. Injury to the facial bony structures, but not involving the orbit, produces lesion of the eye, by concussion, at the macular region. This was found to be the commonest cause of impairment or loss of central vision, but the type of fundus lesion is not constant.

This is a type of cases where the disturbance is produced by concussion. The injury to the bony facial structure produces a vibratory wave which is transmitted to the orbit through the pterygomaxillary fossa and fissure. The eye is shaken just as a building is shaken by an earthquake. This type of injury is frequently located in the macula or macular region and may be explained as follows. The macular region being the most delicate and sensitive portion of the eye, is more liable to injury and secondly the posterior wall of the eye has attached to it the optic nerve which forms a sort of drag when the eye is shaken. The twitching or jerking motion produced by injury in this region produces ruptures or hemorrhages. In a small number of facial injuries there is produced a loss of central vision for which the ophthalmoscope shows no direct cause.

FOURTH LAW. Injury to the facial bony structures producing fracture of the orbit, with more or less depression of its walls, without striking the eyeball, produces two types of fundus lesion: macular and paramacular changes

by concussion, and peripheral fundus lesions at site nearest the injury to the orbital wall.

This is a group of injuries in which we have macular changes as described under group three but there also exists chorio-retinal lesions of varying extent resulting directly from the impact, and the extent and severity of the lesions is in proportion to the extent of the injury. This chorio-retinal lesion is always situated interior to the orbital fracture. A wave starting from the fractured region shakes the soft tissues of the orbit and suddenly and violently strikes the eye rupturing the membranes at the point of contact. The rupture is chiefly of the choroid and with hemorrhage; the blood detaching and rupturing the retina sometimes producing a proliferating chorioretinitis. It is evident, then, that this group contains two types of injuries: Macular injury, and choroidal or chorioretina changes. These injuries were of quite frequent occurrence.

FIFTH LAW. *When the missile passes through the orbit without direct injury to the eyeball, it produces the same disorders as in group four, but with the addition of lesions resulting from laceration of structures of orbital cavity. Very often, the optic nerve is cut through, in which event the disc is lacerated, as if it had been pulled out.*

This type contains the injuries of type four with the addition of direct injury to intra-orbital tissues, and the type of injuries in addition to those described under group four can of course vary with the part or region of the orbit injured.

LaGrange observed several cases where the same bullet passed through both orbits and cut both optic nerves behind the eye ball. When the nerve has been cut or violently contused, we find marked injury at the posterior wall of the eye ball, the result of traction by the shock which the nerve suffered. The nerve when thus injured is naturally pulled by the missile, apparently, the missile trying to pull the nerve out of the eye ball and LaGrange has observed cases in which this actually happened. In other cases there is serious chorio-retinal injuries often of proliferating type resulting from laceration of the optic nerve. In other cases the trophic nerves, the motor nerves or even the oculo-motor muscles themselves may be cut.

SIXTH LAW. *Mediate or immediate contusion of the eyeball by a missile grazing the globe tangentially without rupturing it, produces immediate disorders of the fundus at site of the impact, and the macular region is also the seat of lesions due to concussion. However, the peripheral and central lesions encroach upon each other; the eye is distorted, the area of destruction goes from the posterior pole to the peripheral region corresponding to site of impact.*

When the eyeball is contused but not ruptured by a missile grazing it, we always find fundus changes at the point corresponding with the point of impact represented by the rupture of the choroid and usually by rupture of the retina also. These lesions are extensive and usually radiate toward the macula. Thus the macular region is secondarily involved in these cases.

All visual changes resulting from war injuries can be explained by one or the other or by two or more of these laws.

To LaGrange's rules we would add a seventh as follows:

SEVENTH LAW. *Accompanying or following infectious diseases which have been prevalent in the army, we may have suppurative choroiditis, papillitis or nerve atrophy.*

Under this group are to be classed the various intraocular changes that we have noticed in the Military Service. Suppurative choroiditis occurs in meningitis cases and also occasionally in septic pneumonia. We have also seen nerve atrophy in meningitis. Under this heading would come albumenuric retinitis cases accompanying scarlet fever.

Among the twenty-five cases of meningitis which were under treatment at Field Hospital 33, there were six cases of suppurative choroiditis following or during meningitis, developing at no particular period of the disease. The patients complained of very little pain, chiefly only of loss of vision. On examination we found haziness of cornea, dilated pupil and in a few hours pus in the anterior chamber. In four of the cases only one of the eyes was affected and in the other two cases both eyes. In all of the cases except one an evisceration was performed with good results. In the case in which no operation was performed the eye was becoming soft when I left the hospital.

DISCUSSION.

DR. WALTER R. PARKER (Detroit): I had the privilege of seeing practically all the cases that returned and were sent to the Walter Reid Hospital, and Fort McHenry. In addition to this I was at the Walter Reid Hospital, so had indirectly some responsibility in these cases. Fortunately, we were early in possession, through Government channels, with the classification made by Lagrange. It may sound fanciful as you hear it read in this way, but as a matter of fact it was very practical. We amused ourselves finally by looking at the eye and then predicting the character of the wound and the location, and it was astonishing how near we could make our diagnosis. In a case where there was a point of contact a chorioretinitis will start from a point opposite that of the bony wall and extend anteriorly from that point. That is so constant that not infrequently choroidal disturbances would be missed because they were so far forward. But the general picture of these cases is one of the most striking things I have seen. It is the best atlas imaginable. In most of the cases the vitreous was entirely clear, or at least to such a degree that it did not appear in the detailed fundus examination. In addition to the simple macular disturbances, not infrequently there would be a pigment disturbance throughout the entire posterior fundus, making a picture like a long-standing choroiditis.

Without going into the detail of the different classes I want to emphasize the things that seem the most striking. I had never before with any certainty made a diagnosis of hemorrhage of the sheath—with a brownish-black ring, looking like

a choroidal ring except that it is smooth and well rounded. When once seen it never can be mistaken for anything else, and could not be forgotten. The other thing that impressed me is the short time that is necessary for pigment changes in the fundus to simulate the changes in an old choroiditis. We have all of us been called on to testify in court cases as to the probable length of time that elapsed in a choroidal lesion. Personally, I have been willing to say in most cases that the lesion has existed a year or perhaps two. As a matter of fact, we saw many cases that looked like old choroidal cases, and we were positive they had existed not more than from three to six months. It was a complete revelation to me. We will all see these cases, and I thought you would be interested to look up this classification and see how nearly you can bring the cases under this classification that Lagrange has given us.

I also want to speak of those cases where the optic nerve is torn out. They are comparatively common. I never had seen a case of that kind. The cases present the appearance of a very exaggerated glaucoma involving the entire nerve head. In some cases the whole posterior pole will be torn off. You will get good fundus reflexes until you get to the posterior pole, and then it is simply a mass or web. But the partial tearing out of the optic nerve, like hemorrhage of the sheath, when once seen will be remembered without difficulty. But they are lesions with which we have not been familiar previous to war experience. There was no hemorrhage in the cases I saw. There may have been hemorrhage earlier, but not when I saw them.

STUDY AND TREATMENT OF THE INSANE.

Over 50 per cent. of the patients in the state hospitals of Illinois—or of any other state, for that matter—are cases of dementia praecox. The salient feature of this type of mental disorder is a loss of interest in the things that serve as spurs to normal activity—desire to get on in the world, love of home and family, outside social interests, etc. Fantastic ideas and bizarre activities take the place of these sane interests, and the affected individual ceases to make the adjustments necessary to retain his place as a member of the family and of society at large. He gets out of step with the mass of his fellows; depends more and more upon his own delusional resources; contents himself with poorer and poorer way of doing things; and in the end, if allowed to go his own gait, suffers a more or less profound deterioration.

* Accompanying this mental degradation there is no corresponding physical decay, and, as a result, the praecox patient who enters an institution at twenty may very well continue to exist there until he is seventy. At least 20 per cent. of all commitments belong to this group, and, since so few die and so few recover (possibly 10 per cent.), a balance between the incoming and outgoing is not struck until at least half of the entire hospital population consists of this type.

This sad statement, says *The Modern Hospital* in an article on the Chicago State Hospital, Dunning, Ill., is an admission of the fact that dementia praecox still remains very much in the realm of the unknown. Since its cause has not yet been discovered, it can be treated only by those methods which have empirically proved to be successful.

The Journal
OF THE
Michigan State Medical Society
ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

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L. W. Toles	Lansing
R. S. Buckland	Baraga

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September

Editorials

COMMITTEE APPOINTMENTS.

President Baker has made the following Committee Appointments for the ensuing society year:

1919-1920.

MEDICAL EDUCATION.

Guy L. Connor, Chairman	Detroit
Victor C. Vaughan	Ann Arbor

LEGISLATION AND PUBLIC POLICY.

A. M. Hume, Chairman	Owosso
A. P. Biddle	Detroit
D. Emmett Welsh	Grand Rapids

VENEREAL PROPHYLAXIS.

A. H. Rockwell, Chairman	Kalamazoo
J. A. Wessinger	Ann Arbor
C. C. Slemons	Grand Rapids

TUBERCULOSIS.

Herbert M. Rich, Chairman	Detroit
E. B. Pierce	Howell
J. S. Pritchard	Battle Creek
W. Kerr	Bay City
J. Hamilton Charters	Houghton
C. M. Williams	Alpena
Harlan MacMullen	Manistee

PUBLIC HEALTH EDUCATION.

D. M. Griswold, Chairman	Detroit
W. J. Herrington	Bad Axe
J. S. Pritchard	Battle Creek
Max Peet	Ann Arbor
G. E. Winter	Jackson

CIVIC AND INDUSTRIAL RELATION.

G. E. Frothingham, Chairman	Detroit
C. D. Munro	Jackson
A. B. Simonson	Calumet
R. H. Nichols	Holland
W. H. Sawyer	Hillsdale
J. D. Bruce	Saginaw
J. D. Riker	Pontiac
C. B. Fulkerson	Kalamazoo
F. B. Walker	Detroit
Guy Johnson	Traverse City

Appointment to committees is not an idle honor. Acceptance of an appointment implies a pledge that the acceptor will devote time, energy and thought to the work that is allotted to and within the province of his committee. Further, he agrees to carry through the activities of his committee so as to obtain results and accomplish definite ends for the benefit, influence and achievements of the Society and its members. In plain words it means *work*.

Each member of these Committees has been notified of his appointment and the chairman of each committee has been supplied with the names of those who comprise his committee. A list of the Committees will be found each month in the front advertising section of the *Journal*.

President Baker has set out to make this Society year witness some definite advanced organizational activity and achievement. He cannot do this without the support and co-operation of his committees and our entire membership. We must, therefor, all rally to the support of our President; plan and undertake definite work; contribute our time and energy to the problems presenting. May he not receive this support from the very start? Will you not become active at once?

CONSTITUTION AND BY-LAWS.

Complying with the resolution passed by the House of Delegates we are publishing in this issue our Constitution and By-Laws as revised and amended to date. Preserve this copy for future reference.

We would also request every member to read the "object" of our Society as given in the first sections of the Constitution. Are you, as a member, aiding your local Society and its officers to attain that object? We hope you will contribute your personal efforts to attain that end during the meetings of this winter.

EVENTUALLY. WHY NOT NOW?

We have stolen the slogan of one of the main ingredients of the staff of life that we have had drummed into us since we first sported pants, but it best illustrates our point and that is our only excuse for thus pilfering.

To get right down to business, though, from a careful investigation, we find that most of us who were in uniform are now back on the old job and trying to gather up the strings that were cast adrift in 1917 and 1918.

Our experiences in the army were varied and at times we almost thought that we had given in vain from the manifold duties that we were called upon to perform. Perform is the only word that really does our efforts justice, when our inexperience in the ways of the military is taken into consideration and the so-called red-tape seemed useless energy expended but in all this maelstrom of humanity that was called to the defense of humanity, we doctors, if we did nothing more than issue the proverbial Iodine and C. C.'s, learned the value of organized effort, that wonderful achievement of really working together, where every man's bit added to another man's bit, got the desired results, no matter what they were.

Those of us who were not fortunate enough to get into the game for one reason or other, also observed the effect of concerted effort in the work that was carried on among the civilians.

Now, why not profit by this experience? Why not instill some of the result of our observation into our work, now that we are getting back into our stride again? There is nothing to be gained by one individual striving to do it all. There is nothing to be gained by two or three of us working to a common end while an equal number are pulling in the opposite direction.

Realizing what would be necessary and knowing that there is no time like the present while the germ of co-operation and team work that

was inoculated in the service has still the power to assert itself and has not reached the dormant state, the council of the society has taken preliminary steps to bring the realization of the get-to-gether policy home to the medical profession of Michigan.

No man is so good that he can not learn from another and gain from his experience. Just because the other man is not your next door neighbor is no reason that you should not benefit from his association. Get to know your co-workers in the profession. It means success and dollars and cents to you.

The cry is generally made among the county societies that they haven't time for the effort of widening their scope and increasing their membership. We realize that this takes considerable work and really more than the average doctor can give from his daily allotment of twenty-four hours but we also know that it must be done and done quickly. So—

We have now secured the assistance of a man who will devote his entire time to engendering a fuller co-operation and work-together policy among us all.

He is here to render every assistance to the county societies and will work with you in every way to make your society a real working and producing factor.

His ideas are at your disposal, as well as his personal assistance at your meetings. Just drop us a line and tell us what your troubles are. We are here to help you.

Mr. Harold O. Gurney will in the course of the next three months call on the officers of County Societies and will review with these officers and members of these county societies plans for active society work and meetings. Personally we are intimately acquainted with Mr. Gurney, know his ability and we are certain he is going to be of assistance in a way that will reflect to the benefit of the entire profession. In the meantime, until he calls, we want you to write us your ideas of how we can help you—tell us your needs.

We get back to our headline again. We all know that it is something that must be done before the medical fraternity of this state is really efficient, so why wait until tomorrow, it never comes. Eventually it must be. Why not now?

THE DUTY OF REPRESENTATIVES OF THE MEDICO-LEGAL COMMITTEE.

In compliance with the resolution passed by the House of Delegates we are imparting again the steps to be taken by County Society Representatives of the Medico-Legal Committee when a member applies for protection for a suit or threatened suit. These instructions are implicit and were compiled by Dr. Tibbals, Chairman of our Medico-Legal Committee. Preserve them for future reference.

Dear Doctor:

As the local member of the Medico-Legal Committee, your duties are those usual to the "man behind the gun." To you will first be reported all suits or threats of suit against any member of your society.

Ascertain all the facts in the case, with dates, names of witness, consultants, attorney for plaintiff, etc., and submit them promptly to the chairman of the committee. If suit has not been started, endeavor to harmonize the conflicting opinions if possible. If suit has been started, send a copy of the declaration as soon as filed, and in consultation with the defendant recommend your best posted local attorney to defend the case in court if it goes to trial. The power to contract with a local attorney will in all cases rest with the Executive Board, who will however, give due weight to the recommendations of the defendant and yourself. In all cases the general attorneys will supervise the defense and prepare the brief for trial.

In case of trial the Executive Board will pay court costs, attorney fees and necessary witness' fees exclusive of fees to medical experts. If experts from out of town are considered essential their expenses only will be paid from the Fund.

The Medico-Legal Fund is not liable for damages if verdict be given against the defendant, but the case will be carried through the higher courts, if legal grounds for appeal exist. The Fund is not liable for cases threatened or suits started prior to January 1, 1910, or subsequently, in the case of new members, for suits threatened prior to date of membership.

The Executive Board will handle such cases, however, at the request of the defendant, under his guarantee to assume all expense incurred should the case go to trial.

The work of the Medico-Legal Committee will in no way conflict with the rights of the people in holding physicians responsible for negligent or incompetent treatment.

The law of liability of physicians is known to but few lawyers, to fewer physicians and to none of the people. Made up as it is more of court decisions than of exact statutes persons ignorant of the law are prone to extend the liability of physicians to include every kind of unsatisfactory result. Actually there is no guarantee of results. The doctor can make mistakes either of omission or commission and these mistakes may result in harm to the patient, yet the doctor cannot be held liable unless it can be shown that he was not reasonably skillful and diligent.

Many suits materialize as a result of the physicians' attempt to collect his bill. It is generally wise where there are rumors of dissatisfaction, not to try to collect until after the statute of limitations has barred the possibility of a damage suit, namely, two years. If, however, suit has already been entered it is generally better to pursue the opposite policy and have the doctor assume the aggressive at once, sue for his bill and sue for a sum which will take cognizance of the expense of that particular case to the doctor, that is for skill and care exercised, for worry, for jeopardy of reputation, etc. Sue in the justice court so as to get an issue before the damage suit comes to trial, have stenographer present and get all testimony. If the man puts in a defense of malpractice his damage suit is certainly gone if judgment is given in the doctor's favor. If he does not defend, the doctor will take judgment by default. In either event the judgment should be collected promptly, as an aggressive defense is always the best.

The Medico-Legal Committee is for the purpose of assisting members unjustly accused of civil malpractice. It cannot be used for the collection of bills except as a means of defense against threatened malpractice suits, nor in criminal cases, nor where the accused is guilty of an unworthy act.

Submit any doubtful points to the Executive Board through its chairman. We are on the job all the time for the purpose of assisting any member in need of aid.

We have the counsel of competent attorneys

with the best compilation of decisions appertaining to physicians' liability in the State.

The knowledge that a fighting defense is at the disposal of any member unjustly accused will stop many suits of this sort and the winning of a few cases in any county will subsequently deter any but the rare case of seemingly apparent malpractice from reaching the dockets for trial.

The more united the profession is in your community, the less frequent will be cases of alleged malpractice.

The knowledge should be widespread that next to the hungry lawyer, the jealous doctor is the biggest menace to the peace of mind of the profession.

If possible, get your "outsiders" into the Society, if they are reputable, and civilize and harmonize them.

This Medico-Legal Bureau makes it worth the while for every reputable practitioner to belong to the State Society.

The plan also provides defense for the estate of a member in good standing against suit for civil malpractice.

Very truly,
F. B. TIBBALS, Chairman,
C. B. STOCKWELL,
E. C. TAYLOR,
C. W. HITCHCOCK,
ANGUS McLEAN.

MEDICAL RECIPROCITY.

There is probably no medical subject, involving both theory and practice, so generally misunderstood by medical men as the fundamental principle upon which the interstate indorsement of medical licenses is based, usually termed medical reciprocity.

The general belief is, for example, that if Michigan has in force a reciprocity agreement with Illinois, the Michigan medical board must accept for indorsement all of the medical licentiates of Illinois without regard to the standard of preliminary and medical education fulfilled for license by the individual applicant, and vice versa, the Illinois board must in like manner, accept all of Michigan's licentiates; in other words, that medical reciprocity is a *group* proposition as distinguished from an *individual* proposition.

Nothing is farther from the facts involved in legal reciprocity between states. Such a method would not only have no legal basis, but in addition, would lack merit and equity. It would place the educationally low grade physician upon an equality with a higher grade physician. From the legal standpoint, such a system of medical indorsement would be in direct violation of the college recognition clause of all medical acts. Medical boards are not only given authority, but are directed to create a list of accredited colleges, involving in such list only such colleges which in the judgment of the board fulfill the board's preliminary and medical standards, and are specifically directed to refuse to recognize colleges which do not come up to the set standard. How then would it be possible to recognize low grade medical and other colleges in direct conflict with a medical act, and simply through a medical board reciprocity agreement?

There is also a constitutional question involved in the method of reciprocal endorsement, whether a group or an individual proposition. As opposed to the group recognition of licentiates, reciprocity is in fact based upon individual attainment in medical education and practice. Constitutionally, a state cannot exact a higher standard of qualification, and conversely, neither can it accept a lower standard than that in force in the state in which an applicant seeks endorsement. Therefore, an applicant for a medical license in Michigan, a resident, a graduate and licentiate of another state, must fulfill to the extent of one hundred per cent an equal standard of qualification to that exacted from a Michigan graduate and licentiate. This would be impossible if the group method was adopted.

Keeping the above fundamental points in view, it will readily be seen that qualification as well as license is essential in medical reciprocity. License and indorsement without qualification are incompatible. What possible virtue would there be in medical reciprocity which allowed a student who wished to practice medicine in this state, but who was unable to meet the requirements of our State University, from taking his college course and his licensing examination in a low grade state, and then obtaining the right to practice in Michigan through the indorsement of his defective qualifications? Also as a matter of a square deal to our state institu-

tions, would it be fair for the state to require them to graduate a student of a certain grade, and at the same time recognize a much lower grade practitioner from an institution graduating students not acceptable to Michigan colleges, and in a great many instances dismissed for defective scholarship?

The scope of licensure standards apply equally to applicants for interstate indorsement as well as to those applying for a state board examination for license, and involves preliminary qualifications for matriculation, medical courses in accredited institutions granting degrees in medicine, and the extent and quality of the licensing examination test when required.

Therefore, the three fundamental points to be considered in evaluating qualification for interstate indorsement or reciprocity are:

1. Quality and extent of matriculation credentials.
2. Educational value of an accredited medical diploma.
3. Method, character and extent of the licensing examination or, if licensed by medical diploma, if such diploma was a recognized one at the date of registration, and if the license was dated prior to the date when a board examination became effective in a state. This date in Michigan is 1903, in Ohio 1900, California 1901, Kentucky 1907, etc.

The following is taken from the Michigan Medical Act.

Section 3. "That a diploma issued by a medical college listed by the board shall be recognized as a qualification under this act, in the event only of its representing the actual standards of preliminary and medical education within the provisions of this act. The board of registration in medicine shall, from time to time adopt minimum standards of preliminary and medical education, and no high school, academy, college, university or medical college, or other institution or board shall be approved and designated or its diploma or certificate be recognized by said board under subdivision one of section three of this act, unless in the judgment of the board, it conforms with such standard."

Reciprocity Clause: "The applicant may, at the discretion of the board, be registered and given a certificate of registration if he or she shall present satisfactory proof of the possession of a certificate of registration or license which has been issued to said applicant within the states, territories, districts or provinces of the United States, or within any foreign country, where the requirements for the registration of said applicant at the date of his or her license shall be deemed by said board of reg-

istration in medicine to be equivalent to those of this act. The fee for registration from applicants of this class shall be fifty dollars, and for the endorsement of a certificate to another state, five dollars.

It will be noted from the above that the *individual* method of qualification is the statutory requirement of the act, and that the so-called reciprocity clause is an *interstate endorsement* provision, and does not involve a reciprocal agreement with another state, or a licensing trading proposition. The act permits the board to admit to practice in the state, any properly qualified physician without regard to his resident, state or country, provided, of course, he meets the Michigan standard.

The Michigan board adopted in 1902 the following reciprocity clauses as a basis for interstate indorsement of medical licenses. One or both have been adopted by all reciprocating states and harmonize with the provisions of the Michigan medical laws.

Qualification No. 1.

That a certificate of registration showing that an examination has been made by the proper board of any state, on which an average grade of not less than 75 per cent. was awarded, the holder thereof having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in the state where interstate indorsement is sought, may be accepted in lieu of an examination as evidence of qualification. Provided, that in case the scope of the said examination was less than that prescribed by the state in which registration is sought, the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

Qualification No. 2.

That a certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for registration in any other state, provided the holder of such certificate had been engaged in the reputable practice of medicine in such state at least one year, and also provided that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirement of the examination test in such state.

B. D. HARRISON.

FINE WORK—WHO IS NEXT?

As an example of organized effort and Society Activity we commend and call to the attention of other County Societies the plan that the Ottawa County Society will carry out during the first part of September.

On certain selected days, the officers of the Society with several members accompanying are going out in their automobiles to call on every doctor in the county. They are going to stimulate the regular members to renewed interest and activity in their Society. Likewise they are going to point out to non-members the reason why they should become members.

In brief they are going to stir up professional interest and activity in their County Society, become better acquainted with each other and plan for a winter of profitable meetings and organized activity and life. It is a splendid movement that may well be employed by other County Societies. Who is going to be next to follow Ottawa's example.

Editorial Comments

MENTAL DISEASE AND DELINQUENCY.

At a meeting of the New York State Commission of Prisons, held June 4, 1918, a resolution was adopted, directing that an investigation be made on the subject of mental disease and delinquency by a committee of the Commission. This Committee has made the following recommendations:

1. That all males convicted of felony and not released under suspension of imposition or execution of sentence pass through the proposed clearing house at Sing Sing Prison and thence be distributed to each of the state prisons and the New York State Reformatory at Elmira in the light of the needs of each case.

2. That all sentenced female felons and those convicted of offenses of a lesser degree than felony selected by the court, pass through a clearing house to be established by the state at the New York State Reformatory for Women at Bedford Hills, and from this clearing house, after a period of study and reconstruction, be distributed to other state institutions for women in the light of the needs of each case.

3. The prompt establishment of the proposed clearing houses on Blackwell's Island to function for the Department of Correction of New York City in the same way as Sing Sing and Bedford

Hills clearing houses function for the state institutions, converting the penitentiary into a clearing house for men and the workhouse into a clearing house for women.

4. The establishment of a state institution for the care and treatment of male defective delinquents, providing for their commitment, release and transfer. The Eastern New York Reformatory at Napanoch is suggested.

5. The establishment of a state institution for the care and treatment of female defective delinquents, providing for their commitment, release and transfer. The New York State Reformatory for Women at Bedford Hills is suggested.

6. The establishment of an institution in connection with the Department of Correction of the City of New York for the care and treatment of male defective delinquents.

7. The establishment of an institution in connection with the Department of Correction of the City of New York for the care and treatment of female defective delinquents.

8. That all children brought before the court, charged with delinquency or improper guardianship, be examined mentally, the examinations to be made either in a clinic attached to the court, or in a central clinic to be provided, and those found feeble-minded to be committed to proper institutions if in need of institutional care.

9. That all adults convicted of offenses less than felony and all adults convicted of felony and released under suspension of imposition or execution of sentence, be examined mentally at the discretion of the judge at a clinic attached to the court or at a central clinic.

10. The establishment of mental clinics throughout the state as planned by the State Commission for the Feeble-minded, and the establishment of a psychopathic hospital in New York City as proposed by the State Hospital Development Commission.

11. The creation of a state board to supervise and direct the activities of these mental clinics, thereby securing proper standardization in the way of methods used and results obtained.

12. That the Legislature be requested to enact such legislation as will put these recommendations into effect.

If you have an idea, thought or suggestion either for the *Journal*, the County Societies or for our members as individuals send it along. We want to inspire and stimulate an intercommunication and relationship amongst all our members for the general good of the profession. The *Journal* is the medium at your disposal for doing so.

Next month we hope to give in full detail the plan whereby the U. S. Public Health Service will provide medical and hospital care for ex-soldiers for their physical disabilities arising as the result of their services. It is a most comprehensive plan and one that will give to our ex-soldiers the professional attention to which they are entitled.

Time was when a doctor who indulged in flowery phrases intermingled with Latin quotations and including references to the Meuses, or Saints when addressing a meeting or reading a paper was considered learned and possessed of ability. That time is passed. In this present busy world such a style is now obsolete and tabooed. What is wanted is plain, concise and even terse phraseology—no ambiguous language but a diction that is clear and direct to the subject under discussion. We suggest a close adherence to this style when addressing a society meeting and in the composition of papers for publication.

On July 1, 25,600 officers and enlisted men of the army were undergoing treatment in twenty hospitals equipped for physical reconstruction work. With the work of the U. S. Public Health service Uncle Sam by these two methods is certainly providing in an ample manner for the physical needs of his ex-soldiers.

The Coldwater Daily Reporter* contains the following card in its issue of July 24th:

On and after August 1st our charges for professional services will be as follows:

Day calls in the city	\$2.00
Night calls (9 P.M. to 6 A.M.)....	3.00
Office calls—prescription written ..	.75
Office calls, medicine furnished ..	1.00
Confinement ordinary (less than 8 hours)	20.00
Forceps delivery or repair of perineum	\$5.00 extra
Service in country, as above, plus 50 cents per mile one way.	

Signed

F. W. Stewart
W. H. Baldwin
L. C. Hatton
B. W. Culver
Samuel Schultz
D. H. Wood
N. Baldwin
Geo. H. Moulton
A. G. Holbrook
E. F. Gamble
Ralph W. Ridge
F. G. Legg

We are encouraged to learn of this unified action of Coldwater doctors. Certainly, under present conditions, they are justified in raising their prices. We recommend no mercy for the "crook" who will cut fees for the sake of securing other doctors' patients.

Dr. V. C. Vaughan has been elected President of the National Anti-Tuberculosis Society. The *Journal* extends congratulations. As the movement to eradicate tuberculosis gains in strength and is becoming effective this parent organization did well to elect a man so capable of heading the enlarged scope of activities that are planned to combat this white plague.

Frederick L. Hoffman, who has presented many valuable statistics on life insurance, disease prevalence, social and industrial health factors, sailed Aug. 2d for England to investigate in detail the methods and results of England's New Ministry of Health. We shall expect, on his return, to receive a valuable report on the subject and so enlighten us further on Compulsory Health Insurance.

We are going out after advertising contracts and are pledging our readers' patronage. Now that you are back in the harness in your community we ask that you support us in this campaign and so enable us to put out a better, larger *Journal* and meet the increased cost of paper, labor and printing. Please reciprocate with our advertisers.

We wonder how many of our members realize that they reflect the professional and organizational spirit and progress of their county. It is you and your immediate associates who establish the reputation for activity, progress and ability or their opposite. Is it not worth your while to devote a little time each day to organizational matters and so build up your local Society and thereby reflect a live in place of a dead or stagnating profession in your county? It's organized effort that's going to count from now on.

Those of us who spent some of our time in cantonments will ever remember the comforts and enjoyments experienced in the Camp Community House. With that memory the thought comes, Why not carry the Community House idea and influence home to our individual cities and towns? Such a building, conducted along similar lines and with like amusement, entertainment features and comforts would exert a wonderful influence for good in the lives of our home neighbors and their

children. A lengthy enumeration of how such a local institution would exert a beneficial influence is unnecessary—the benefits to be derived and the wholesome influence that would be exerted are at once apparent. We but proffer the suggestion and expect to see in the near future Community Houses established in several Michigan cities.

One of the greatest problems that looms up before the medical profession and which merits consideration and action is the movement directed towards securing Compulsory Health Insurance legislation. In our opinion the movement is one that is fraught with danger. To deprive any individual of the privilege of putting his life in the hands of a physician of his choice, or, to compel a physician to attend a sick person against his will is a movement contrary to our fixed ideas of freedom and independence. We abhor bureaucracy. We cannot grasp the idealism or the enthusiasm of those self appointed few who pose as so deeply interested in the physical welfare of their neighbors.

The subject is going to be one for editorial discussion in future issues. We invite opinions and comments for we feel it deserves the thoughtful consideration of every Michigan doctor. We propose placing all the facts obtainable before the profession. We are not so optimistic as Dr. Parnall, of the University Hosptial at Ann Arbor, who is quoted by an Ann Arbor paper as stating that "Community health service would be a feature of the near future." We propose combating any such attempt until the subject has been thoroughly debated and the public and profession are fully conversant with every phase of Compulsory Health Insurance.

We can't just fathom this agitation over an extra hour of daylight. Inasmuch as most of our County Societies adjourn during the summer months and the prohibition law has put the cabarets out of business it doesn't matter whether our summer evenings are shorter by one hour for nothing now happens at night any more. Why worry about the hour?

Recent reports from the Surgeon-General's office impart some startling information regarding the physical defects of drafted men. Inasmuch as these disqualifications were in most instances preventable conditions, had parents and communities been enlightened as to how they could be prevented the figures below merit our consideration. These facts should be driven home to the public in order that future generations may be freed from their disablement. This is a matter that merits the con-

sideration of every County Society. How can we best enlighten the public?

The rejections for physical causes as they are recorded by the Surgeon-General are given in the following table:

Venereal Diseases	938,232
Heart Disease	564,768
Disease of the ear, including defects of hearing	525,600
Disease of the eye, including defects of vision	421,704
Flat feet	346,392
Alcoholism	296,640
Disease of the organs of locomotion	277,128
Hernia	209,304
Disease of the skin	174,672
Under weight	173,160
Disease of the respiratory system	156,600
Defective teeth	149,112
Weakness of mind	146,088
Defects of development	132,552
Disease of the genitourinary system, non-venereal	124,992
Varicose Veins	90,360
Disease of the nervous system, except as shown in detail	88,848
General Disease, except as shown in detail	82,800
Tuberculosis	76,824
Varicocele	48,168
Insufficient chest development	45,144
Disease of the digestive system, except as shown in detail	43,704
Physical debility	38,880
Curvature of the spine	36,144
Overweight and obesity	31,608
Hemorrhoids	22,608
Underheight	21,006
Disease of the circulatory system, except as shown in detail	7,560
Injuries	207,792
Rejected for causes not physical	1,721,304

There is no denying that the activity of our County Societies is at a low water mark. This is true not only for scientific activity but also numerically. Many have allowed their membership to lapse. The war and its drain upon the resources of our profession is now a thing of the past. We are approaching a winter that promises to be a busy one. We are at the eve of a new epoch. Many innovations are bound to be wrought. As an organization we must become alert and aggressive. Certain ends must be attained and can only be secured through organizational interest and activity. Your county society must have an end towards which to work. It will not then be an aimless society—but one that will reflect new life and energy. Each

county must determine some definite end towards which it shall work—a new City or County Hospital, Inspection of Schools, Public Health, Venereal Prophylaxis, County laboratory or some similar end. Then there will be recreated a spirit of new activity and your meetings will be practical inspirations. Now is the time to get busy.

“Frederick L. Hoffman, LL.D., third vice-president and statistician of the Prudential Insurance Company, who is now on an extended English trip, made largely for the purpose of a thorough investigation into the methods and results of National Health Insurance in Great Britain, wrote the editor of this *Journal*, under date of July 15, 1919, as follows:

I have just finished reading a large amount of original information received from England and I am absolutely of the opinion, in the light of my present knowledge, that National Health Insurance has been decidedly detrimental to the status and well-being of the medical profession of Great Britain. The doctors have been reduced to the status of mere clerks or servant of Approved Societies and there has been developed a tendency to the granting of dishonest certificates as an aid to maligning and fraud upon the funds. A large amount of the practitioner's time is taken up with National Health Insurance questions which have nothing to do with the practice of medicine as a healing art. Doctors are continually on trial before Insurance Commissioners for alleged offences against the act, chiefly over-prescribing, with that it is more true of England to-day than of any other country in the world, unless it be Germany, that there is a reign of terror and chaos, in consequence of a fatuous policy of alleged social reform.

The President of the Illinois State Medical Society in his annual address, May, 1919, said:

The organized profession which will have to work under this law does not demand it, organized labor has condemned it, the employers of labor, as represented by the various national organizations, Chambers of Commerce and Civic Federations, have all gone on record as being opposed to it. It is being fostered by and originated with the “American Association for Labor Legislation,” which is in no wise connected nor in any way affiliated with organized labor. However, the supporters of this measure have a strong organization to promote its enactment, so strong that it has been successful in enlisting many prominent medical men in its defense, and it will only be by the united team work of the members of this society that it will be defeated in this state.”—*New Jersey State Medical Journal*.

To all of which we agree and feel that here in

Michigan agitation for Compulsory Health Insurance cannot be ignored. We must meet the question square, determine the position we as a Society will assume and then meet the self-appointed idealists so that their “lobbying” will not delude the public or mislead the profession.

Deaths

Dr. Julius Francis Henkel of Detroit died July 22nd at his home, 173 East Grand Boulevard.

Dr. Henkel enlisted as a private in the Michigan National Guard in 1891, and rose to the rank of lieutenant colonel and chief surgeon. He reorganized the medical service of the National Guard, and was the first commanding officer of the medical detachment which later became the 168th American ambulance company attached to the Forty-second (Rainbow) division in France.

Surviving are the widow, two brothers, and two sisters.

ARTICLES OF ASSOCIATION OF THE MICHIGAN STATE MEDICAL SOCIETY.

We, the undersigned, being of full age, and desiring to become incorporated under the provisions of Act Number 171, of the Public Acts of Michigan for 1903, entitled “An Act for the incorporation of associations not for pecuniary profit,” do hereby make, execute and adopt the following articles of association, to-wit:

ARTICLE I.

The name or title by which said corporation is to be known in law, is the *Michigan State Medical Society*.

ARTICLE II.

The purpose or purposes for which it is formed, are as follows: To federate and to bring into compact organization the entire medical profession of the State of Michigan and to unite with similar societies in other states to form the American Medical Association; with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state

medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life.

ARTICLE III.

The principal office or place of business shall be at Battle Creek, County of Calhoun, Michigan.

ARTICLE IV.

The term of existence of this proposed corporation is thirty years.

ARTICLE V.

The number of trustees or directors shall be nineteen.

ARTICLE VI.

The names of the trustees or directors selected for the first year of its existence are as follows:

J. Henry Carstens, Virgil L. Tupper, Emil H. Webster, James F. Breakey, Rosingrave M. Eccles, Wilfrid Haughey, George F. Inch, Andrew P. Biddle, Albert E. Bulson, William H. Haughey, Alvin H. Rockwell, Ralph H. Spencer, Aurther M. Hume, William J. Kay, Arthur L. Seeley, Bartlett H. McMullen, Charles H. Baker, William T. Dodge, Charles J. Ennis.

ARTICLE VII.

The qualifications required of officers and members are as follows: All members in good standing of the Component County Medical Societies shall be considered *ipso facto* members of this Society; physicians in good standing may also be elected to this Society in such manner as may be provided by its constitution and by-laws.

In Witness Whereof, We, the parties hereby associating, have hereunto subscribed our names this day of June, A.D., Nineteen hundred and ten.

J. HENRY CARSTENS,
VIRGIL L. TUPPER,
EMIL H. WEBSTER,
JAMES F. BREAKEY,
ROSLINGRAVE M. ECCLES,
WILFRID HAUGHEY,
GEORGE F. INCH,
ANDREW P. BIDDLE,
ALBERT E. BULSON,
WILLIAM H. HAUGHEY,
ALVIN H. ROCKWELL,
RALPH H. SPENCER,
ARTHUR M. HUME,
WILLIAM J. KAY,
ARTHUR L. SEELEY,
BARTLETT H. MCMULLEN,
CHARLES H. BAKER,
WILLIAM T. DODGE,
CHARLES J. ENNIS.

(Filed and recorded in the office of the Secretary of State September 17, 1910.)

CONSTITUTION OF THE MICHIGAN STATE MEDICAL SOCIETY.

ARTICLE I—Name of the Society.

The name and title of this organization shall be The Michigan State Medical Society.

ARTICLE II—Purposes of the Society.

The purpose of this Society shall be to federate and to bring into one compact organization the entire medical profession of the State of Michigan and to unite with similar Societies in other States to form the American Medical Association; with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III—Component Societies.

Component Societies shall consist of those County Medical Societies which hold charters from this Society.

ARTICLE IV—Composition of the Society.

Section 1. This Society shall consist of Members, Delegates, and Honorary Members.

Section 2. The Members of this Society shall be the members of the Component County Medical Societies.

Section 3. DELEGATES. The Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective Component County Societies in the House of Delegates of this Society.

Section 4. HONORARY MEMBERS. Honorary members shall be of two classes, resident and non-resident.

Section 5. Resident Honorary Members shall be chosen from those who have practiced medicine not less than twenty-five years and have been active members in good standing of this Society for at least ten years. They shall be nominated by the Council at any of its meetings and may be elected by the House of Delegates at the Annual Meeting following such nomination. They shall have all the privileges of the Society and receive all publications without the payment of dues. Not more than five Resident Honorary Members shall be elected at any one meeting.

Section 6. Any distinguished physician, not a resident of this State, may be elected an Honorary Member, provided he has been nominated by the Council at a previous meeting. Nor more than two non-resident Honorary Members shall be elected at any one meeting.

ARTICLE V—House of Delegates.

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) delegates elected by the Component County Societies, and (2) ex-officio, the officers of the Society as defined in this Constitution, without power to vote. (As amended June 28th, 1905.)

ARTICLE VI—Sections and District Societies.

The House of Delegates may provide for a division of the scientific work of the Society into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of the Component County Societies.

ARTICLE VII—Sessions and Meetings.

Section 1. The Society shall hold an Annual Session during which there shall be held daily General Meetings, which shall be open to all registered members and delegates.

Section 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII—Officers.

Section 1. The officers of this Society shall be a President, four Vice-Presidents, a Secretary, a Treasurer, and a Board of Councilors of such number as the House of Delegates, upon recommendation of the Council, may from time to time fix by resolution. (As amended Sept. 28, 1911.)

Section 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary and the Treasurer shall be elected by the Council at its Annual Meeting in January, and shall hold their offices for one year. The Councilors shall be elected for terms of six years each, these terms being so divided that four Councilors shall be chosen each alternate year. All of these officers shall serve until their successors are elected and installed. (As amended May 15, 1917.)

Section 3. The officers of this Society, not otherwise elected, shall be elected by the House of Delegates on the morning of the last day of the Annual Session; but no Delegate shall be eligible to any office named in the first section, except that of President or Councilor; and no person shall be elected to any such office who has not been a member of this Society for at least two years.

ARTICLE IX—Funds and Expenses.

Section 1. Funds for meeting the expenses of the Society shall be provided by a yearly fee of three dollars and fifty cents for each member, payable in advance to the Secretary of the Component County Society, and from the profits of its publication.

Section 2. Funds may be appropriated by the House of Delegates, subject to an approval by the Council, for publication, and for such other purposes as will promote the welfare of the Society and the profession.

ARTICLE X—Reciprocity of Membership Among State Societies.

To broaden professional fellowship among the State Societies, the Michigan State Medical Society, by its President and Secretary, is ready to arrange with other State Medical Societies, having equal requirements, for the interchange of certificates of membership. Members removing from one of these states to another may thus avoid the formalities of re-election.

ARTICLE XI—Referendum.

The General Meeting of the Society may by a two-thirds vote order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the members of the Society for a final vote; and, if the persons voting shall comprise a majority of all the members registered at the session, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XII—The Seal.

The Society shall have a Common Seal, with power to break, to change or to renew the same at pleasure.

ARTICLE XIII—Amendments.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the Delegates registered at that Annual Meeting, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been sent officially to each Component County Society at least four months before the session at which final action is taken.

BY-LAWS OF THE MICHIGAN STATE MEDICAL SOCIETY.

(As Compiled and Subsequent Amendments.)

CHAPTER I.—Membership.

Section 1. All members of the Component County Societies who are not in arrears for dues, shall be

privileged to attend all meetings and to take part in all the proceedings of the Annual Session, and shall be eligible to any office within the gift of the Society, except as otherwise provided. See Constitution, Article VIII, Section 3.

Any member in arrears for dues to the amount of one year or more may regain membership either by paying up all back dues or by being again elected to membership. (As amended June 29, 1905.)

Section 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered County Society shall be prima facie evidence of his right to register at the Annual Session in the respective bodies of the Society.

Section 3. No person who is under the sentence of suspension or expulsion from any Component Society of this Society, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Society; nor shall he be permitted to take part in any of its proceedings until such time as he has been relieved of such disability.

Section 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the Component Society of which he is a member. When his right to membership has been verified by reference to the roster of His Society he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that Session. No member or delegate shall take part in any of the proceedings of the Annual Session until he has complied with the provisions of this section.

CHAPTER II—Annual and Special Sessions of the Society.

Section 1. The Society shall hold an Annual Session at such time and place as has been fixed at the preceding Annual Session.

Section 2. Special sessions of either the Society or the House of Delegates may be called by the President at his discretion or upon petition of twenty delegates.

CHAPTER III—General Meetings.

Section 1. The General Meetings shall include all registered members and delegates, who shall have equal rights to participate in the proceedings and discussions, and to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability, or by his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President, and the entire time of the Session, so far as may be, shall be devoted to papers and discussions relating to scientific medicine. (As amended May 25, 1906.)

Section 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and to dispose of reports of the same; but any expense in connection therewith must first be concurred in by the Council.

Section 3. Except by special vote the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed. No paper shall be read by title nor by any other person than its author except as a result of sickness of author, or by unanimous vote of the section to which it belongs. (As amended Sept. 14, 1909.)

Section 4. No address or paper before the Society, except that of the President, shall occupy more than fifteen minutes in its delivery; and no member shall speak longer than five minutes or more than once on any subject. (As amended May 25, 1906.)

Section 5. All papers read before the Society shall be its property. Each paper read shall be deposited immediately with the Secretary, but the author may also publish same in any reputable journal not published in this State, provided the printed article bears the statement that it was "read before the Michigan State Medical Society."

CHAPTER IV—House of Delegates.

Section 1. Each Component County Society shall be entitled to send to the House of Delegates each year one delegate for every 50 members, and one for each major fraction thereof; but each County Society holding a charter from this Society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate.

Section 2. The House of Delegates shall meet annually at the time and place of the Annual Session of the Society, and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Society, or with the meeting held for the address of the President, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But, if the business interests of the Society and profession require, it may meet in advance, or remain in session after the final adjournment of the General Meeting. (As amended May 25, 1906.)

Section 3. A majority of registered delegates shall constitute a quorum. All of the meetings of the House of Delegates shall be open to members of the Society.

Section 4. It shall consider and advise as to the interest of the profession, and of the public in

those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Section 5. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that at least one of the delegates shall be elected each year.

Section 6. It shall divide the counties of the State into Councilor Districts. When the best interest of the Society and the profession will be promoted thereby, it may organize in each a District Medical Society, to meet midway between the Annual Sessions of this Society. Members of the chartered County Societies, and no others, shall be members in such District Societies. (As amended May 27, 1904.)

Section 7. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

Section 8. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

Section 9. It shall present a summary of its proceedings of the last General Meeting of each Annual Session, and shall publish the same in the *Journal* of the Society.

Section 10. The House of Delegates shall provide for the division of the scientific work of the Society into appropriate Sections:

First—A Section on General Medicine.

Second—A Section on Surgery.

Third—A Section on Obstetrics and Gynecology.

Fourth—A Section on Ophthalmology and Otolaryngology. (As amended Sept. 28, 1911.)

CHAPTER V—Sections.

Section 1. Sections shall hold their meetings at such times and in such places as shall not interfere with the General Meetings.

At each Annual Meeting a Chairman shall be chosen for each Section to serve for one year. A Secretary shall be chosen each second year to serve for two years or until his successor is elected.

All papers, communications and matters of technical or professional nature shall be referred to the Section to which they pertain.

CHAPTER VI—Election of Officers.

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, unless otherwise provided.

Section 2. The House of Delegates shall elect annually at its first meeting a Nominating Committee of five from the House of Delegates, no two of whom shall be from the same Councilor District. (As amended June 12, 1903.)

Section 3. The Nominating Committee shall nominate the first, second, third and fourth Vice-Presidents, the Councilors from the Districts in which there are vacancies, and the Representatives to the House of Delegates to the American Medical Association. In so far as possible the Vice Presidents shall be selected with especial reference to the promotion of the work of the Councilors in the four districts nearest their respective residence.

Section 4. The report of the nominating committee and the election of the officers nominated shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the session.

Section 5. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

Section 6. Any member of the Society is eligible to the office of President, and nominations to this office may be made and seconded by any member of the same.

Section 7. The nomination for President shall be made the first order of miscellaneous business at the General Meeting of the Society on the first day of the Annual Session. Under no other circumstances shall a nomination or announcement of candidates be made in open session.

Section 8. A locked ballot box, for the reception of the ballots, in the custody of the Committee on Nominations above mentioned, shall be placed in or about the halls where the General Meetings are held. One or more of the Committee on Nominations shall receive and deposit the ballots in the box, at the same time checking the name of the voter from the list of those entitled to vote, which list shall include all the members of the Society registered at the meeting.

Section 9. The polls shall close at 11 o'clock A. M., on the last day of the Session. The result of the canvass shall be reported to the Society at the close of the General Meeting. (As amended May 26, 1906.)

Section 10. The person receiving the largest number of votes on the presidential ticket shall be declared President.

Section 11. In the event of a tie vote on the presidential office the presiding officer shall submit the names of the candidate in alphabetical order to the vivavoce vote of the meeting, and the one receiving the greatest number of votes shall be declared President.

Section 12. The Secretary and the Treasurer shall be elected by the Council at its meeting in January, as provided.

CHAPTER VII—Duties of Officers.

Section 1. The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; shall fill all vacancies not otherwise provided for occurring by reason of death, disability or removal of any officer, Councilor or member of any committee, occurring during the fiscal year of the Society; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall, as far as practicable, visit by appointment the various sections of the State and assist the Councilors in building up the County Societies, and in making their work more practical and useful. At least one month before the Annual Session he shall appoint a committee of five on credentials, whose report shall be the first order of business of the first session of the House of Delegates at the Annual Session. (As amended Sept. 15, 1909, and Sept. 28, 1910.)

Section 2. The Vice-Presidents shall assist the President in the discharge of his duties, and the Council in the organization and nurture of County Societies.

Section 3. The Treasurer shall give bond for the trust reposed in him, as fixed by the Council. He shall demand and receive all funds, due the Society, together with bequests and donations. He shall, under the direction of the Council, sell or lease any estate belonging to the Society, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Society. He shall pay money out of the Treasury only on the written order of the Chairman of the Council, countersigned by the Secretary of the Society; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of the doings and of the state of the funds in his hands to the Council. He shall keep the moneys of the Medico-Legal Fund, and a record thereof, entirely separate from the general funds and records of the Society. Such moneys shall be deposited in a bank having no connection with any other bank in which the general funds of the Society are held. He shall pay money out of the Medico-Legal Fund, only on a written order of the Chairman of the Executive Board of the Medico-Legal Committee and the Chairman of the Council or the Secretary of the State Society. (As amended Sept. 16th, 1909, and Sept. 28, 1910.)

Section 4. The Secretary, acting with the Committee on Scientific work, shall prepare and issue the programs for and attend all meetings of the Society and of the House of Delegates, keeping minutes of their respective proceedings in separate record books. He shall be custodian of all record books and papers belonging to the Society, except such as properly belonging to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the Annual Session. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the County Societies, and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their appointments and duties. He shall be editor of the *Journal* of this Society, and shall employ such assistants as may be ordered by the Council. He shall annually make a report to the Council at the January meeting, and the essentials of this report shall be incorporated in the report of the Chairman of the Council to the House of Delegates at the next Session. (As amended May 25th, 1906, and Sept. 16th, 1909, and Sept. 28th, 1910.)

The salary of the Secretary shall be fixed by the Council, annually. (As amended Sept. 28th, 1910.)

Section 5. The business of each Annual Session shall be completed by the officers who have served throughout the session.

CHAPTER VIII—The Council.

Section 1. The Council shall hold daily meetings during the Annual Session of the Society and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. Three Councilors shall constitute a quorum for the transaction of business. The Council shall meet on the last day of the Annual Session of the Society for reorganization and for the outlining of the work for the ensuing year. At this meeting it shall elect a Chairman, Vice-Chairman and a Secretary.

It shall hold a meeting in January of each year and at a date and place fixed by the Chairman. It shall keep a permanent record of its proceedings, and through its Chairman make an annual report to the House of Delegates at such time as may be provided. The President and Secretary of the Society shall be ex-officio members of the Council without vote. (As amended Sept. 28, 1910.)

Section 2. Collectively, the Council shall be the Board of Censors of the Society. It shall consider all questions involving the right and standing of

members, whether in relation to other members, to the Component Societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a County Society, upon which an appeal is taken from the decision of an individual Councilor. Its decision in all cases shall be final.

Section 3. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such County Societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality, and shall continue these efforts until every reputable physician of the State has been brought under medical society influence.

Section 4. It shall upon application provide and issue charters to County Societies organized to conform to the spirit of this Constitution and By-Laws.

Section 5. In sparsely settled sections it shall have the authority to organize the physicians of two or more counties into societies, to be designated by hyphenating the names of two or more counties as to distinguish them from district and other classes of societies. These societies when organized and chartered, shall be entitled to all the privileges and representation provided herein for County Societies, until such Counties may be organized separately.

Section 6. The Council shall provide and superintend the publication and distribution of all proceedings, transactions and memories of the Society, and shall have authority to appoint an editor and such assistants as it deems necessary. Further, to facilitate this work it shall be the duty of the Secretaries of the Sections, during each Annual Session, or as soon thereafter as is practicable, to deliver to the Editor, or his duly appointed agent, all such proceedings, reports, addresses, papers and other documents as may have been ordered for publication. All money received by the Council, or its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Society, and all orders on the Treasurer for disbursements of money in any way connected with the work of publication must be indorsed by the Chairman of the Council and countersigned by the Secretary of the Society. All matters of the Society pertaining to the expenditure of money for other purposes shall be referred, during the Annual Session, to the Council, who shall report upon the same with-

in twelve hours, and if the House of Delegates orders the expenditure of money in connection with said report, the payment shall be made by the Treasurer as provided above. It shall be the further duty of the Council to hold the official bond of the Treasurer for the faithful execution of his office, annually to audit and authenticate his accounts, and to present a statement of same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Society during the year, and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary.

In the event of a vacancy in the office of the Secretary of the Society, or the Treasurer, or Chairman of the Medico-Legal Committee, the Chairman of the Council shall fill the vacancy ad interim until the next meeting of the Council. (As amended Sept. 16, 1909, and Sept. 28, 1910.)

Section 7. Each Councilor shall be organizer and peacemaker for his District. He shall visit each county in his District at least once a year for the purpose of organizing component societies where none exist, inquiring into the condition of the profession, and for improving and increasing the zeal of the County Societies and their members. He shall make, on blanks furnished by the State Secretary, a report of his doings and of the condition of the profession of each county in his District to the Council at its Annual Meeting in January. The necessary traveling and hotel expenses incurred by the Councilor in the line of duties herein enjoined and in attending the annual meeting of the Council in January shall be audited by the Council at its annual meeting and paid in the same manner as other Society expenses are paid. (As amended Sept. 28th and 29th, 1910.)

CHAPTER IX—Standing Committees.

Section 1. The standing committees shall be as follows:

- A Committee on Scientific Work.
- A Committee on Public Policy and Legislation.
- A Committee on Arrangements.
- A Committee on Medical Education.
- A Medico-Legal Committee. (As amended May 25th, 1906, May 16th, 1907, and Sept. 16, 1909.)
- A Committee on Industrial and Civic Relationship. (As amended Sept. 11th, 1914.)

Section 2. The Committee on Scientific Work shall consist of the President, who shall be the Chairman, the Secretary, and the Chairmen and Secretaries of the Sections. It shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instruction of the House of Delegates, or of the So-

ciety, or to the provisions of the Constitution and By-Laws. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers shall be presented, which shall be adhered to by the Society as nearly as practicable.

Section 3. The Committee on Public Policy and Legislation shall consist of three members appointed by the President. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of the public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence in local, state and national affairs and elections.

No bill or proposed law or amendment thereto shall be introduced in the State Legislature or sent to any member thereof in the name of this Society or by any of its committees until such proposed legislation shall have been indorsed and approved by the Council of this Society in regular session.

After any proposed legislation shall have been indorsed by the Council, it shall be referred to the Committee on Public Policy and Legislation, who shall thereupon have it presented for passage at Lansing, and take such steps as may be necessary to secure for it the united indorsement of the Medical Profession throughout the State, and to that end it shall be the duty of the Secretary of this Society under the direction of the Committee on Legislation and Public Policy, to have printed and issued to the various County Societies, or to each member thereof as the case may require, circular letters and letters of indorsement to be addressed by the physicians to their representative at Lansing, asking for the support and passage of the Legislation so approved. (As amended May 16, 1907.)

Section 4. The Committee on Arrangements shall consist of five members of the County Society in the territory in which the Annual Session is to be held, and shall be appointed by the President of the Society. It shall, by committees of its own selection, provide suitable accommodations for the meeting place of the Society, the House of Delegates, the Council, and the Sections, and shall have general charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program.

Section 5. The Committee on Medical Education shall consist of three members, one to be appointed for one year, one for two years, and one for three years, thereafter one member to be appointed each year; said committee shall select one of its own

members as a Delegate to the yearly conference on Medical Education of the American Medical Association. (As adopted May 16, 1907).

Section 6. The Medico-Legal Committee shall consist of an Executive Board of five, to be elected by the Council, and also one member from each Component society to be elected by the component societies. The Executive Board shall be elected for one, two, three, four, and five years, respectively, and thereafter one member shall be elected each year to hold office for five years. All other members of the committee shall be elected for one year.

The members of the Executive Board shall be elected at the January meeting of the Council and shall immediately assume office. Members of the Medico-Legal Committee shall be elected one by each component society participating in the defense fund, at the first meeting after September 1st and shall assume office January 1st following. (As amended Sept. 28, 1910.)

Section 7. The Council at its January meeting shall elect one of the five members of the Executive Board as Chairman, whose term of office shall be for one year. He shall also act as Chairman of the entire Committee.

No disbursement shall be made from the Medico-Legal Fund without the signatures of the Chairman of the Executive Board and the Chairman of the Council or the Secretary of the State Society.

The salary of the Chairman of the Medico-Legal Committee shall be fixed by the Council, annually. (As amended Sept. 28, 1910.)

Section 8. The Executive Board shall report to the Council at its annual meeting, giving full particulars of the work of the Committee, and a detailed statement of income and disbursements.

It shall engage by the year a competent firm as general attorneys, and fix their compensation. Their duties shall be to compile from all available sources court decisions fixing the law of liability of physicians for civil malpractice, such compilations to be the property of the Society, and also to defend any member of the Society not in arrears, when sued or threatened with suit for civil malpractice, or to supervise such defense through a local attorney. (As adopted Sept. 16, 1909.)

Section 9. Members in arrears after April 1st shall not be entitled to defense for any suit, the cause of action of which arose while in arrears, and any member sued or threatened before joining the Society or before the organization of the Medico-Legal Fund must pay the actual cost of defense in such suit. (As adopted Sept. 16, 1909.)

Section 10. With the exception above noted, the Medico-Legal Committee shall undertake the defense of any members of the Society sued or threat-

ened with suit for civil malpractice through all state and Federal Courts operating in Michigan, regardless of the time when the alleged cause for action arose and shall also defend any action for civil malpractice against the estate of a deceased member, provided he or she while living has conformed to the foregoing requirements.

Section 11. In the event that during any one year the demands upon the Medico-Legal Fund be large enough to exhaust it, the Council shall be authorized to loan sufficient funds from the treasury of the State Society to meet the contingency. (As adopted Sept. 16, 1909.)

Section 12. It shall be the duty of any member of the Society threatened with action for civil malpractice to confer at once with the member of the Medico-Legal Committee from his component society and with his aid prepare the case and forward the same to the Chairman of the Executive Board. He must agree not to settle or compromise his case without the consent of the Executive Board and the General Attorneys. He may recommend, in conjunction with the local member of the Medico-Legal Committee, the best available local attorney, but the authority to engage the services of local attorneys shall lie with the Executive Board and their General Attorneys. The local attorney chosen shall enter the appearance of his client and undertake his defense under the supervision of the General Attorneys. (As adopted Sept. 16, 1909, and amended Sept. 28, 1910.)

Section 13. All attorney's fees and costs will be paid from the Medico-Legal Fund and defense carried through all Federal and State Courts operating in Michigan but under no circumstances shall this fund be liable for any damages declared against an unsuccessful litigant. (As adopted Sept. 16, 1909, and amended Sept. 16, 1916.)

Section 14. The Committee on Industrial and Civic Relationship shall consist of ten members appointed annually by the newly elected president.

The duties of the Committee shall be:

To study, gather facts and become intimately acquainted with all and every movement wherever and by whosoever agitated, proposed or attempted to enact or be enacted that has as its secret or avowed object the providing of social, commercial or industrial medical insurance for the public, civic or commercial employes of persons; or for the providing of medical or surgical care to a group or groups of individuals singly or collectively.

"To devise and advise, whenever necessary, intelligent action on the part of this Society upon these questions.

"To represent this Society at any and all conferences, such as civic or commercial propagandists

may hold and by which dignified recognition is extended to the medical profession.

"To report annually and in writing, its findings, recommendations and information to the House of Delegates. Should occasion arise in the interval between the stated meetings of the House of Delegates and prompt action become imperative, the Committee is to present its findings to the Chairman of the Council and President who are empowered how to proceed in such emergencies by this Constitution and By-Laws."

CHAPTER X—Authority in Emergencies.

When prompt speech and action are imperative, authority to speak and act is vested in the Council. (As amended Sept. 28, 1910.)

CHAPTER XI—Assessments and Expenditures.

Section 1. The annual assessment shall be three and one-half dollars for dues and subscription to the *Journal*. The Secretary of each Society shall forward its assessment with a roster of all officers and members to the Secretary of this Society immediately after the annual meeting of the County Society.

Section 2. Any County Society which fails to pay its assessment, or to make the reports required on or before April 1st of each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Society or of the House of Delegates until such requirements have been met.

Section 3. All motions or resolutions appropriating money shall specify a definite amount for the purpose indicated, and must be approved by the Council.

CHAPTER XII—Rules of Conduct.

The Principles set forth in the Code of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XIII—Rules of Order.

The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XIV—County Societies.

Section 1. All County Societies now in affiliation with the State Society or those which may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, or with the code of ethics of the American Medical Association, shall, upon application to the Council, receive a charter and become a component part of this Society, sub-

ject to the condition described in Section four of this Chapter. A roster of its officers and members and the annual assessment and subscription to the *Journal* for each member must accompany the application. (As amended Sept. 28, 1910.)

Section 2. As rapidly as can be done after the adoption of this Constitution and By-Laws a medical society shall be organized in every county in the State in which no component Society exists.

Section 3. Charters shall be issued only upon approval of the Council, and shall be signed by the President and Secretary of this Society. The Council shall have authority to revoke the charter of any Component Society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws or the Code of Ethics of the American Medical Association.

Section 4. Only one Component Medical Society shall be chartered in any county. Where more than one County Society exists, friendly overture and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite an appeal may be made to the Council, which shall decide what action shall be taken.

Section 5. Each County Society shall be the judge of the qualifications of its own members; but, as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered practitioner of medicine shall be eligible to membership. Before a charter is issued to any County Society, full and ample notice and opportunity shall be given to every eligible physician in the county to become a member. (As amended June 24, 1908, and Sept. 28, 1910.)

Section 6. Any physician who may feel aggrieved with the action of the Society of his county in suspending or expelling him from membership shall have the right of appeal to the Councilor of his district. (As amended Sept. 28, 1910.)

Section 7. In hearing appeals the Council or the Councilor may admit oral or written evidence as in his or its judgment will best and most fairly present facts. Efforts at conciliation and compromise shall, however, precede all such hearings.

Section 8. When a member in good standing in a Component Society moves to another county in this State, he shall be given, without cost, a transfer card good for the time for which his dues are paid, not exceeding one year from the first of January following the date of issue. This card shall be void if not accepted by a component Society before such limit expires. (As amended Sept. 28, 1910.)

Section 9. A physician living near a county line may hold his membership in that county most con-

venient for him to attend, on permission of the society in whose jurisdiction he resides.

Section 10. Each County Society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every qualified physician in the County.

Section 11. At the Annual Meeting in the fall, or at the first meeting after January 1, due notice having been given, each County Society shall elect annually a delegate and alternate, or delegates and alternates, to represent it in the House of Delegates of this Society in the proportion of one delegate to each fifty members or major fraction thereof. (See By-Laws, Chapter IV, Section 1.) The Secretary of the County Society shall immediately send the list of its delegates to the Secretary of this Society. (As amended June 29, 1905.)

Section 12. The Secretary of each County Society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State and such other information as may be deemed necessary, upon blanks supplied him for the purpose, together with remittance for such collections, to the State Secretary. (As amended June 29, 1905, and Sept. 28, 1910.)

CHAPTER XV—Amendments.

These By-Laws may be amended at any Annual Session by a majority vote of all the Delegates present at that Session after the amendment has laid upon the table for one day.

State News Notes

Are you looking for a practice in town of 800 that will pay you \$5,000 cash first year. I collected \$7,800 last year. We have factory employing 50 hands, good schools, Methodist and Baptist churches, electric lighting. Fine state roads. American population. Fees good. Collect 95 per cent. Competition nil. Fine farming country surrounding. Have modern residence and office for sale on easy terms. It will pay you to investigate. c-o Journal.

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

FOR SALE.

The office and residence of Dr. W. L. Griffin, Shelby, Mich., have been partially destroyed by fire, July 19th. He is locating at Albion, Mich., and will devote himself to office work.

He is leaving a practice of \$5,500 a year, 85 per cent. of which is collectable.

The office and residence can be rebuilt reasonably. A fine location for the right man.

Reason for leaving, too much driving.

Reorganization of all public health work in Detroit on a scheme which has some of the features of the social unit plan, is now under way, Dr. Henry F. Vaughan, health commissioner, announced.

The plan includes the division of the city in 10 or 11 districts, reduction of a number of physicians on the commission's staff to one-fifth of the present force, who will give their entire time to the work, instead of part time, and the establishing of health centers in the various districts. It will be put into effect in September in the Delray district, south of the Michigan Central main line and west of Junction avenue.

One doctor and 16 nurses will be assigned to this section, and the health center will be at the present clinic, 36 Peterson street. Other districts will follow as fast as the staff can be assigned and trained.

"Our object is greater efficiency which we believe can be obtained in this way," said Dr. Vaughan. "At present we have tuberculosis, child welfare, school and contagious disease nurses and physicians working independently, and often overlapping each other. Under the new plan one nurse, or one doctor, will take care of all these classes of work in his own neighborhood. I believe it will bring us into much closer touch with the people."

The establishment of small health offices in each district and the intimate knowledge which doctors and nurses will acquire of their districts, Dr. Vaughan believes, will secure for the new system the advantages claimed for the social unit system which is being tried in Cincinnati and other cities, while the retention of authority by the health commission will avoid the dangers of local control which have been urged against it.

The next annual meeting of the American Public Health Association is to be held at New Orleans, Louisiana, October 27-30 inclusive. The central themes of discussion will be Southern health problems, including malaria, typhoid fever, hookworm, soil pollution and the privy, etc.

The general belief among the health profession is that influenza will return next winter, and a full

session will therefore be devoted to this subject for the purpose of developing methods of control.

A special effort has been made to arrange the program to meet the practical needs of health officials. Accordingly there will be discussion on such questions as the attitude of legislators towards public health, the obtaining of appropriations, co-operation from women's clubs, health organizations, etc., the organization of health centers, and so on.

The programs of the sections will, as usual, deal with public health administration, vital statistics, sanitary engineering, laboratory methods, industrial hygiene, sociology and food and drugs.

Two special programs will also be presented on various phases of child hygiene and personal hygiene.

Winter railroad rates to New Orleans will be in effect from all points after October 1.

The program of the meetings will be published in the *American Journal of Public Health* appearing October 5 or may at that time be had upon application to the Secretary, 169 Massachusetts Avenue, Boston, Massachusetts.

The Peking Union Medical College, Peking China, which has been built under the direction of the Rockefeller Foundation, will open for the instruction of students in October, 1919. The college will give a four years' course in medicine and an additional year of special work in hospitals or in laboratories. The school will be coeducational. There is also a premedical school offering a three years' course preparatory to admission to the medical school. This premedical school was opened in September, 1917.

Don't pass the buck. We are working overtime to make the *Journal* a success but this is not a one man job. We need the help of each and every member. The least you can do is to patronize our advertisers. They patronize YOUR *Journal*, so it is up to you to reciprocate. Without them, our *Journal* would be a losing proposition. When you need something in their line, patronize them. WE STAND BEHIND THEIR GOODS. Watch for the new advertisers and make it worth their while.

The Michigan State Board of Registration of Nurses will hold an examination for State Registration on October 7 and 8th, 1919, in the House of Representatives, State Capitol, Lansing, Michigan. All applicants who desire to take the examination should have their applications on file with the Board at least fifteen days prior to the date set for the examination.

Your attention is invited to the advertisement of the Mess-Kit appearing for the first time in this issue. This is a publication that is of interest to every man that donned the olive drab and will recall many happy moments spent in the service. If you did not get in yourself, have a copy of it on your waiting room table for those of your patients who did.

Doctor J. H. McKibbin, who has successfully practiced his profession of medicine and surgery in Kalamazoo for the past thirty years, the last fifteen years as a specialist of the eye, ear, nose and throat, has retired and gone West. He is now living at the Wilhelm Apartments, 639-641 South Grand Ave., Los Angeles, California.

Mrs. W. A. Lee, wife of the late, Dr. Walter Lee of Sheridan, writes that there is an excellent opening for a physician at Sheridan. No money investment required. Mrs. Lee states a physician is needed badly and that she will gladly assist introducing him.

The completion of the new Detroit Tuberculosis Sanitarium on a 700 acre field near Northville is being pushed, now that the Supreme Court has ruled favorably in regard to the legality of the bonds to provide funds for this new million dollar institution.

"Strike and everybody strikes with you. Work and you work alone." That seems to be the spirit of the present commercial world. But what would happen if we had a "Doctors' strike?" Anyhow you are not working alone if you are a member of your County Society.

Dr. J. H. Hodgen has returned to Grand Rapids after two years in the service and will confine his work to Orthopedics. Dr. Hodgen, before the war spent a year with Jones of Liverpool and two years at the Boston Children's Hospital.

Rives Junction is a desirable location with no competition within a radius of eight to eleven miles and in Jackson county. Dr. H. N. T. Nichols, is leaving to become factory surgeon for the Briscoe Motor Company. Suitable house and office may be secured from Dr. Nichols.

Dr. Ursus V. Portman, formerly of Cleveland, where he was associated with Drs. Crile and Bunts and later of the Surgical Service of Base Hospital No. 99, has located in Grand Rapids and is associated with Dr. F. C. Warnshuis.

Have you noticed the new advertisements in this issue? Can you send some of your business to our advertisers? This means old as well as new advertisers.

"Never judge a person hastily. Even the dog in the manger may have been a nervous person and needed a rest." That's the Victor Corporation's observation for August—and, well think it over.

Dr. A. A. McNabb, who left Alma about two years ago to join the Grand Rapids Unit, has returned and resumed his practice with Dr. T. J. Carney of Alma.

Dr. C. B. Gardner, who has been in military service for about eighteen months, has returned to Alma, and brought Dr. Charles F. Dubois with him who will be associated with him in general practice.

County Secretaries who have failed to return the questionnaire sent them are urged to do so at once. This data is desired by the Council. Please attend to this at once.

Dr. Clyde F. Karshner of Big Rapids announces his removal to Chicago and his association with Dr. Frank Smithies. Dr. Karshner will limit his work to diseases of the blood, heart, lungs and kidneys.

In the Victory Number the picture of Major R. G. Leland of Kalamazoo was published as that of Capt. R. I. Ireland. We regret the error which was the only one in the entire issue.

Splendid work is being done to bring about the removal of quack practitioners in Detroit. A number of arrests have been made and prosecution commenced.

Flint seems to be the mecca for doctors. The County Secretary reports some twenty new doctors as having located in Flint this year.

Wonder what's happened to our Upper Peninsula members? Thus far we have received no notice of their customary annual meeting.

We still have a few copies of the Victory Number which may be secured at 50 cents a copy while they last.

Dr. J. D. Lewis, formerly located at Big Rapids, has located at Sumner, Gratiot County. This adds five doctors to our County.

Dr. C. M. Colignon has been appointed Acting Assistant Surgeon, U. S. P. H. Service for Muskegon and vicinity.

Dr. W. T. Dodge has been commissioned Acting Surgeon, U. S. Public Health Service, for the vicinity of Big Rapids.

The American Railway Surgeons' Association will hold its annual meeting in Chicago in October.

Dr. J. E. Campbell of Banner City has moved to Detroit.

Dr. C. F. DuBois, formerly of Detroit, has become associated with Dr. C. B. Gardner of Alma.

Dr. G. E. Orth, formerly located at Linwood, has located in St. Louis, Gratiot County.

Dr. George F. Lamb, formerly of Pentwater, has located in Grand Rapids.

President Baker spent his vacation at the Northern Michigan resorts.

The New Mercy Hospital of Muskegon is rapidly nearing completion.

The annual meeting of the State Board of Registration will be held in Lansing in October.

Westphalia is a desirable location and at present without a physician.

Dr. Frank B. Walker has removed his offices and is now located in the David Whitney Building.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

GRATIOT-ISABELLA-CLARE COUNTY

The August meeting of the Gratiot-Isabella-Clare County Medical Society was held at Brainerd Hospital, Alma, Thursday, Aug. 14 at 2 p. m. Neither President Baskerville, nor Vice-President Graham being present, Dr. Brainerd was called to the chair. After the regular business was disposed of Dr. T. D. Gordon of Grand Rapids gave a very practical talk on diarrhea and artificial feeding of infants. The doctor used a blackboard, and chalk which made all his points plain. His way of treating the subject made what usually is a dry and uninteresting thing to read about, a most interesting and profitable hour. The attendance was small, but all those present felt well repaid for their time.

Next meeting will be devoted to Dr. Bagley who is about to retire from practice.

E. M. HIGHFIELD, Secretary.

Book Reviews

1918 COLLECTED PAPERS OF THE MAYO CLINIC, Rochester, Minn. Octavo of 1196 pages, 142 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth \$8.50 net.

This compilation of writings of the Mayo staff maintains its recognized standard. We know of no collection of papers or no volume that imparts

the progress of medicine, surgery and diagnostic technic so well as does this and the earlier volumes of the collected papers of the Mayo Clinic. One has presented the practical application of all that is new and safe, with all fads eliminated. Likewise one gets reliable insight as to results that are attainable.

No library is complete without this yearly edition and one is not abreast of the progress of this day if he does not secure and study this collection of papers.

A TEXT BOOK OF UROLOGY IN MEN, WOMEN AND CHILDREN: Victor Cox Pedersen, A.M., M.D., F.A.C.S. Illustrated. Cloth. 991 pages. Price, \$7.00. Lea & Febiger, Philadelphia.

This is a splendid, uniform discussion of the clinical sides of an important branch of practice—medical and surgical. In addition there is given a splendid bibliographical reference list at the end of each chapter. It is a most up-to-date and thorough treatise of an important subject. Personally we feel it to be the best, existing presentation that is practical in every way. As a reference and guide to the last word in urology we shall keep it at our elbow for daily use and so recommend it to others.

PULMONARY TUBERCULOSIS. Maurice Fishberg, M.D. Second Edition, revised, enlarged. Cloth. 744 pages. Price, \$6.50. Lea & Febiger, Philadelphia.

A practical, descriptive text imparting the latest in the etiology, diagnosis, prognosis and treatment of pulmonary tuberculosis, its clinical forms and complications.

HYGIENE AND PUBLIC HEALTH. George M. Price, M.D. Second Edition. Cloth. 280 pages. Lea & Febiger, Philadelphia. Price, \$1.50.

Here is presented a handy volume setting forth the essential parts of a subject upon which volumes have been written. The author has succeeded in his attempt and the profession will find it a most practical book containing just what is needed in administrative health work.

A TEXTBOOK OF CHEMISTRY FOR NURSES. Fredus N. Peters, A.M., Ph.D. Illustrated. Cloth. 302 pages. Price, \$1.75. C. V. Mosby Co., St. Louis, Missouri.

An ideal, well written work that will enable a student nurse to secure and grasp a knowledge of chemistry sufficient but necessary for her to better fit herself for her nursing duties. It will be found to be a book of real value and help.

Miscellany

"ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY."

The Council on Pharmacy and Chemistry of the American Medical Association is a department of our national organization that has not received the plaudits and encomiums of a wildly joyous medical profession nor the grateful praises of the enthusiastic manufacturer of pharmaceuticals. The council seems indeed to be the unloved child of the entire family of subsidiary bodies of the association. Perhaps the reason for this may be found in the character of its duties for the council must expose fraud, sometimes in high places, and protect the physician from being duped by avaricious persons and persons who are themselves sometimes the victims of their own credulity. It thus happens that the sale of some proprietary article previously held in high esteem by the practitioner proves valueless, perhaps even fraudulent. The practitioner, however, may have credited much of his success in treating certain conditions to that preparation and the maker has had success in accumulating dollars from its sale and both parties emit a loud and vicious roar against the council, because they both lose money. Nobody wants to be "protected" against making money—make it honestly if possible, but make it—but this black sheep among the Councils of the American Medical Association insists on their making their money honestly!

Despite many obstacles thrown into its path, the Council on Pharmacy and Chemistry has serenely pursued its allotted tasks, corrected its mistakes, improved its methods, and to-day stands as the only medium to which the honest physician may turn for information—not misinformation—regarding proprietary articles. During the war the council and the chemical laboratory were in close co-operation with the Surgeon-General's Office, testing and investigating every article offered to the government for the treatment of the sick soldiers. The variety and the number of fakish and fraudulent stuff offered to the Surgeon-General was a pitiable exhibit of the mental gymnastics of some people. Just now the council and the laboratory have a new and important field before them, i. e., to protect the physicians against worthless and useless serums, vaccines and synthetics. It will be the council's unpleasant duty to expose the fraudulent and useless among these articles and stamp truth on those found worthy.

We seem to have wandered from the topic in our caption but not so in reality because the burden of our thought is to lend our influence to the spread of the motto of the Advertising Clubs of the World, namely, "Truth in Advertising." It is our purpose to stimulate a larger degree of enthusiasm for the work of the Council on Pharmacy and Chemistry and the Chemical Laboratory, a more generous flow of inquiries concerning articles unfamiliar to the physician, and particularly to urge that the words "accepted by the Council on Pharmacy and Chemistry of the American Medical Association" be printed on the label and on all advertising circulars of proprietary articles that have been admitted to New and Nonofficial Remedies. Then, when pamphlets and circulars are received by physicians they will read the statements of manufacturers with sympathetic understanding and with full confidence in the verity of the declarations. The importance of creating just that sort of receptivity in the mind of the prospective buyer is so well known to the astute publicity expert that it is needless for us to dwell on its advantages. Every proprietary article advertised in our *Journal*, in *The Journal of the American Medical Association*, and in the other state association journals, as well as in several well edited privately owned journals, does in effect say to the reader that the articles so advertised are accepted by the council because only proprietary articles so accepted are accepted by us. The fact is further acknowledged when these firms are permitted to exhibit their goods at our annual sessions for again the rule is enforced that only proprietary articles which have been approved by the council may be placed on display.

. Why not complete the circle of ideas—it would not be a “vicious circle”—by printing on labels, in advertisements and circulars, the words: “Accepted by the Council on Pharmacy and Chemistry.”—*Missouri State Medical Journal*.

FRAUDULENT “CURES” FOR VENEREAL DISEASES SEIZED.

By order of the Federal Courts more than 450 seizures have been made recently in different parts of the United States of so-called cures for venereal diseases. They were made on information furnished by officials of the United States Department of Agriculture through its Bureau of Chemistry. A campaign to end the false labeling of such preparations is being conducted by the officials charged with enforcing the Federal Food and Drugs Act.

The goods seized include a great variety of compounds. Some of the labels bear the claim of the manufacturer that the contents are sure cures for venereal diseases. Some even contain statements that cures will be effected within definite periods, varying from three days to a few weeks. In others indirect statements, suggestive names or deceptive devices are craftily used to make it appear that the use of the preparation will be followed by a cure of the disease.

In all the seizure actions the Government alleged the preparations to be falsely and fraudulently labeled, because the ingredients could not produce the results claimed on the labels.

The officials state that such preparations are sold largely because of plausible but false claims regarding their curative effect. Many sufferers with dangerous contagious venereal diseases are led to believe that cures will be effected by these preparations, and adequate treatment under competent medical supervision is neglected until permanent injury to health and even danger to life has resulted. Thus is created one of the greatest obstacles to the proper control and eradication by health officials of venereal diseases. In many instances had such sufferers secured competent advice, early and complete cures might have been effected.

Self-treatment with worthless concoctions causes not only continued suffering but sometimes permanent injury to the unfortunate victims and makes of them a menace to the public health because of the extreme danger of others contracting the disease from them.

Action under the Federal Food and Drugs Act in reference to venereal disease preparations coming under its jurisdiction and sold under proprietary names is limited by the terms of the act largely to the prevention of false or fraudulent labeling. The

act does not prevent the sale of any mixture as medicine, however worthless it may be, if there is directly or indirectly no false or fraudulent labeling. The officials in charge of the enforcement of the act are of the opinion, however, that by causing the elimination of false labeling, upon which the sale of such preparations largely depends, the evils and dangers resulting from their indiscriminate use can be greatly checked, and substantial aid rendered to public health officials.

THE HARRISON ACT.

THE PHYSICIANS OF WESTERN AND NORTHERN MICHIGAN.

Sirs:

Hereafter in the case of KNOWN addicts, for whom you refuse to prescribe for the satisfaction of their needs or the relief of their suffering as addicts, we earnestly request that you report the case and the facts AT ONCE to the State Commissioner of Health, Lansing, Mich., and through him our offices will be kept informed.

Under Act 94 of the Public Acts of Michigan of 1913, provision is made for the treatment and relief of such addicts, if necessary at the public expense.

Therefore, such persons need not hopelessly suffer if the drug is denied them.

In case of persons suffering from a *proven incurable disease such as cancer or advanced tuberculosis* the reputable physician directly in charge, of bona fide patients suffering from such disease, may in the course of his professional practice, and strictly for legitimate medical purposes, prescribe narcotic drugs for the immediate needs of such patients, provided that such patients are personally attended by the physician and that he regulates the dosage himself.

The prescriptions in such cases should bear the endorsement of the attending physician, to the effect that the drug is to be dispensed to his patient in the treatment of an incurable disease. As to frequency of prescriptions in such case, the danger of furnishing such persons who are addicts with a supply of Narcotics must be borne in mind because such patients may use the Narcotics wrongfully, either by taking excessive quantities, or by disposing of a portion of the supply to other addicts or persons not lawfully entitled to the drug.

Care and the UTMOST GOOD FAITH are required.

May we not have your full and hearty co-operation in this difficult and IMPORTANT matter?

Dated, Grand Rapids, Mich., Aug. 9, 1919.

Respectfully.

MYRON H. WALKER,

United States Attorney,
Western District of Michigan.

EMANUEL J. DOYLE,
Collector of Internal Revenue,
Fourth District of Michigan.

PROPAGANDA FOR REFORM.

Partola.—A physician reports that a patient taking Partola as a blood purifier is now in a rundown condition with discoloration of the skin and a craving for the drug and that another patient took three tablets before going to bed, developed cramps and aborted the next day in her third month of pregnancy. Analysis indicated Partola to be tablets containing 2.64 grains phenolphthalein per tablet, sugar, starch and oil of peppermint (*Jour. A.M.A.*, July 5, 1919, p. 55).

Commercial Therapeutics.—The Merrell Proteogens present another attempt to foist on the medical profession a series of essentially secret preparations whose therapeutic value has not been scientifically demonstrated. It is the old story of exploiting physicians through commercial pseudo-science, of trading on the credulity of the profession to the detriment of the public. Sir William Osler says the remedy against the commercial denomination of therapeutics is obvious: "Give our students a first hand acquaintance with disease, and give them a thorough practical knowledge of the great drugs, and we will send out independent, clear-headed, cautious practitioners who will do their own thinking and be no longer at the mercy of the meretricious literature, which has sapped our independence." Excellent! But must humanity wait a generation? Why not stop this evil at once? The American Medical Association has provided the means whereby this may be done, if physicians will only make use of it. The Council on Pharmacy and Chemistry (*Jour. A.M.A.*, July 12, 1919, p. 109).

Tyree's Antiseptic Powder.—An advertisement appearing in the *New York Medical Record* contains a bacteriologic report on Tyree's Antiseptic Powder by W. M. Gray, M.D., Microscopist, Army

Medical Museum, and Pathologist to Providence Hospital. Every person who sees this advertisement and is not familiar with the facts will naturally suppose that this report, written on the stationery of the Surgeon-General's office, War Department, is a recent report. As a matter of fact, the report was issued January 3, 1890, nearly thirty years ago. Furthermore, the product that Dr. Gray examined was a different substance from the present Tyree's Antiseptic Powder. All these facts were brought out in the *Journal A.M.A.*, May 17, 1919, yet the *Medical Record* persists in publishing this inherently dishonest advertisement without explanations or apology (*Jour. A.M.A.*, July 12, 1919, p. 129).

Protecting the Sick Soldiers.—The Council on Pharmacy and Chemistry, aided by the A.M.A. Chemical Laboratory, did a great work in investigating and passing on the many medicinal products offered to the Surgeon-General for the treatment of the sick soldiers in the hospitals and in the field. Fakes of every description were offered the government and it is a well-known fact that no matter how fraudulent, how fakish, or how ridiculous the wares might be, their promoters were able to get political influence, even certain congressmen and senators being secured to help him. Automatically all medicinal preparations offered to the Surgeon-General were referred to the Council and thus many worthless preparations were barred from use by the government. It has been well said that our soldiers were better protected than our civilians; for while the government does not take any chances on the acceptance of useless if not worthless medicinal preparations, yet there are any number of doctors who fail to profit by the findings of the Council on Pharmacy and Chemistry (*Jour. Ind. State Med. Assn.*, July 15, 1919, p. 196).

Proteogens of the Wm. S. Merrell Co.—The Council on Pharmacy and Chemistry report that Proteogen No. 1 (Plantex) for Cancer, Proteogen No. 2 for Rheumatism, Proteogen No. 3 for Tuberculosis, Proteogen No. 4 for Hay Fever, and Bronchial Asthma, Proteogen No. 5 for Dermatitis, Proteogen No. 6 for Chlorosis, Proteogen No. 7 for Secondary Anemia, Proteogen No. 8 for Pernicious Anemia, Proteogen No. 9 for Goitre, Proteogen No. 10 for Syphilis, Proteogen No. 11 for Gonorrhea, and Proteogen No. 12 for Influenza and Pneumonia inadmissible to New and Nonofficial Remedies because their composition is secret; because the

therapeutic claims made for them are unwarranted; and because the secrecy and complexity of their composition makes the use of these preparations irrational. The Proteogens are said to be prepared "Under the personal supervision of the originator, Dr. A. S. Horowitz," who also originated Autolysin (an alleged cancer remedy, exploited some years ago). At one time the advertising for Proteogen No. 1 (Plantex) gave the impression that this was essentially the same as Autolysin. A study of the medical literature revealed no evidence establishing the value of the Proteogens; in fact, no evidence was found other than that appearing in the advertising matter of the manufacturer. The range of diseases in which Proteogens are recommended is so wide as to make obvious the lack of scientific judgment which characterizes their exploitation. Considering the grave nature of the diseases for which Proteogens are recommended, the want of a rational basis for the method of treatment and the general tenor of the advertising, it appears safe to conclude that De Sanctis' pills are essentially five definite advance in therapeutics (*Jour. A.M.A.*, July 12, 1919, p. 128).

Dr. De Sanctis' Gout Pills.—The American agent for these pills is E. Fougera and Co., Inc. When examined in the A.M.A. Chemical Laboratory they were found to contain powdered colchicum seed, benzoic acid and milk sugar. There was also present fatty material which resembled the fat of colchicum seed, but might be in part added fatty acid. It was concluded that Dr. Sanctis' pills are essentially five grain doses of colchicum seed. Here then we have sold for self medication, an extremely poisonous drug with no warning of the risk the public runs in using it (*Jour. A.M.A.*, July 19, 1919, p. 213).

Dr. Miles' Heart Treatment.—According to the Miles Medicine Company this is "a strengthening regulator and tonic for the weak heart." No information regarding the composition of Miles' Heart Treatment is vouchsafed by the manufacturer beyond the statement of the alcohol content (11 per cent.) as required by the law. However, quotations in the advertising suggest that the preparation contains digitalis and cactus. To determine the presence or absence of digitalis in Miles' Heart Treatment, physiologic tests were made. The question as to the presence of cactus was not considered of interest because cactus grandiflorus has been shown to have no physiologic action. The physiologic tests

indicated that there were no digitalis bodies present in the preparation (in amounts that could have any therapeutic effects) in doses containing enough alcohol to induce narcosis. Examination in the A.M.A. Chemical Laboratory showed Miles' Heart Treatment to be a solution of a compound or compounds of iron representing about 0.12 gm. metallic iron in 100 c. c. A solution of iron glycerophosphate in 10 per cent. alcohol, with about 5 per cent. glycerin, and a little sugar or glucose had much the same chemical properties as Miles' Heart Treatment (*Jour. A.M.A.*, July 26, 1919, p. 287).

Tannin Albuminate Exsiccated—Merck.—A compound of tannic acid and albumin thoroughly exsiccated and containing about 50 per cent. tannic acid in combination. It was first introduced as tannalbin. The use of tannin albuminate is based on the assumption that the tannin would pass the stomach largely unchanged, and thus the astringent action be exercised in the intestine where the compound would be decomposed by the intestinal fluid. It is used in diarrhea, particularly that of children and in phthisis. Merck and Co., New York.

Swan's Pertussis Bacterin (No. 38) (Prophylactic).—Marketed in packages of three 1-Cc. vials, containing, respectively, 50, 100 and 200 million killed pertussis bacilli. For a discussion on Pertussis Bacillus Vaccine, see New and Nonofficial Remedies, 1919, p. 287.

Schick Test—Lederle.—A diphtheria immunity test marketed in vials containing diphtheria toxin sufficient for ten tests, accompanied by the required amount of sterile diluent to make the proper dilution of the toxin. For a description of the Diphtheria Immunity Test (Schick Test), see New and Nonofficial Remedies, 1919, p. 305. Schieffelin and Co., New York (*Jour. A.M.A.*, April 19, 1919, p. 1136).

Diphtheria Toxin-Antitoxin Mixture.—A far more durable immunity against diphtheria can be established with a mixture of diphtheria toxin and antitoxin than with antitoxin alone. The immunity does not appear until a considerable period of time has elapsed, and hence the mixture is not applicable in an outbreak of disease. In general the over-neutralized mixture is preferred. Several doses are usually required to induce immunity. Only those persons who are positive to the Schick test need be immunized, and the progress of the immunization may be determined by the response to this test.

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Original Articles

TABES DORSALIS.*

FRANK R. STARKEY, M.D.
DETROIT, MICH.

In this paper it is not my intention to go into the literature of the subject, for I believe this always to be tedious at a meeting of this kind, but rather to express my personal views on the subject above and will not even go fully into the matter from this angle for I have done so in a previous article published in the *Medical Record* of March, 1916.

My object here is to try to impress upon you that tabes can no longer be looked upon as simply a condition confined to the posterior columns of the spinal cord but must be viewed in a much broader sense. The *spirachaeta pallida* may attack any structure of the human economy and the disease or symptom complex expresses the function of the tissues affected. Any function of the nervous system, from the simplest reflexes to the highest and most intricate intellectual processes, may be disturbed by syphilitic infection of the nervous system and the diverse phenomena, which may be the sequence, can only be constituted into a disease by the most arbitrary methods. Although tabes and paresis are spoken of as diseases, in reality we should consider but two factors in the morbid manifestations of syphilis of the nervous system, namely; the character of the infection and the site of its anatomical location. The consequent symptomatology necessarily expresses the physiology of the structures involved. However, tabes is a convenient term to express the fact that the columns of Goll and Burdack are bearing the principal brunt of the destructive process, while by the term general paresis of the insane we signify that the cerebral cortex is chiefly attacked, with involvement of the higher centers thereof. Necessarily in syphilitic pro-

cesses of the nervous system the form assumed by the disease is determined by the site of the destruction, and the course it runs depends upon the natural history of the pathological process. However, since Sherrington gave us our present ideas of the integrative action of the nervous system we know that we cannot look upon an isolated tract or system of the nervous mechanism as being only involved, for we know that by this integrative action the nervous apparatus as a whole is disturbed and this is particularly true in tabes. Not only is the sensory mechanism upset but the paleokinetic and even the neokinetic apparatus is involved, and the cerebellum, which is the organ that controls muscle tonus and the synergies of movement and is closely related to posture and equilibrium, does not exercise its normal function as manifested by the marked hypotonus and asynergia of tabes. And even the autonomic and sympathetic systems show considerable involvement which is discernible by trophic and vasomotor changes. The peripheral nerves, both motor and sensory, and the glands of internal secretion, particularly the pituitary, thyroid and the sex glands, are frequently disturbed in their function in a manner characteristic of this disease. Therefore, we would look upon tabes rather as a somatic nervous disease than simply one confined to the posterior columns. Tabes attacks persons of almost all ages and of all races. It is, however, very rare in the young and unusual late in life. Its most frequent time of incidence is between the ages of twenty and forty-five. The colored races seem less susceptible than the white and in proportion to the prevalence of syphilis it seems to be comparatively rare among the Chinese and Japanese.

ETIOLOGY.

Although the exact etiological factor has been in dispute from time to time, it is now generally accepted and dogmatically asserted that syphilis alone is the cause, yet there are very many cases

*Read before Michigan State Medical Society, May 21, 1919.

of tabes in which the history of syphilis cannot be obtained and no laboratory or other manifestations of the infection determined. It has been demonstrated that lesions of the kidney and other tissues, due to focal infection at a distance, cannot be distinguished pathologically from syphilitic lesions in the same tissues. So, that although we are still confident that 100 per cent. of cases are due to syphilis, notwithstanding absolute negative findings in this regard in a considerable percentage, it may be that, as time goes on and we progress in our knowledge and laboratory technic, we may deviate from this very positive view and be willing to admit that other forms of infection than syphilitic may be the determining cause. Paralysis agitans is one of the diseases concerning the pathology of which we have most recently altered our ideas, thanks, particularly, to the work of J. Ramsey Hunt. The history of the evolution of our knowledge of tabes is replete with complete reversals of opinion as to the etiology of this condition. Such distinguished neurologists as Duchenne, Leyden, Wunderlich, Moebius, Erb and Fournier believed at one time that tabes was due to fatigue, chill, excessive venery or trauma and they were just as positive in their beliefs as we are in ours today, and as they were the leaders and moulders of thought in medical matters of their times, their views were accepted and as dogmatically reiterated as the present conception of syphilis being the one etiological factor. It was due to the research of two of these gentlemen, in particular, namely: Moebius and Erb, who came to believe in the specific role of syphilis in relation to tabes that our present attitude came into vogue and this present conception has been greatly strengthened by the work of Noguchi and Moore, who found the spirochete in the tissues of the cord in a very few instances and their work has been confirmed by many other competent observers. However, other organisms, even the colon bacillus, have been found in the tissues of the central nervous system and we know that the pathogenicity and even the morphology of various strains of bacteria are subject to transmutability, so that I think it has not been thoroughly proven that the posterior columns of the cord are vulnerable to the spirochete only and it would not surprise me at all if the future would show us that other organisms, especially those responsible for focal infection, may produce lesions of the posterior columns and other tissues of the nervous system which cannot be distinguished from those of the spirochete. This

thought is dropped at this point simply as a hint for future investigation, for I am fully aware that there is not now sufficient evidence to establish it as a fact. The mechanism of invasion is believed now to be through the spinal fluid and the initial phenomena are the same as would be manifested in other tissues in similar circumstances, namely: oedema, then granular degeneration, then fatty degeneration, then glia formation. That it is a primary degeneration due to a toxic process involving the columns of Goll and Burdach alone does not seem rational nor conform to our knowledge of syphilitic processes.

SYMPTOMATOLOGY.

The symptomatology of tabes is by no means uniform in its onset. The first manifestation may be optic atrophy or ptosis, paralysis of extrinsic muscles of the eye with consequent diplopia; or the first symptom may be of the vegetative nervous system with usual pupillary changes. Sensory symptoms are not infrequently the first to manifest themselves. Lightning pains which are of an atrocious character, coming on at any time or place without warning and very transitory in character, not accompanied by redness, swelling or increased temperature of the part or tenderness to pressure or passive movement, but are increased by sneezing, coughing, straining at stool or anything that temporarily increases the blood pressure, the patient has an interval of complete absence of pain subsequent to the paroxysm; parasthesias of various kinds; numbness of the extremities; sensation of walking on cushions or loss of sense of position, may be the first to arrest the patient's attention and cause him to seek medical attention. Such a case I recently saw in which the patient complained of an itchy, burning sensation about the waist which caused him to consult numerous dermatologists, but upon examination I found that he had no skin disease but had the classical symptoms of tabes, although in a mild degree, without ataxia. Motor disturbances may be the first to manifest themselves; inability to walk in the dark or with the eyes closed or to dance, may be the first indication that attracts the patient's attention. Patient stands with feet far apart to give wide base, lifts his feet too high and brings them down with undue force, when walking fixes his eyes on his feet; disturbances of vesical or rectal sphincters or the erectal power is sometimes the very first symptom. Crises of various kinds, gastric, with

or without vomiting, vesical, rectal or ocular, may be the initial symptom. Vomiting during these gastric crises may be of such intense and prolonged character as to cause the patient to die of inanition, or to lose much of his body weight, as in a case in which I am interested, he lost one-half his body weight, going from 180 to 90 pounds, due to persistent vomiting. He regained it again upon relief of this symptom. Trophic changes may come on early, Charcot joint, especially of the lower extremities, which frequently goes on until great displacement occurs making walking impossible; ulcers of the palmar or plantar surfaces; fragility of the bones; blueness and redness, with lowered temperature, of the extremities, are manifestations of this nature. Mental symptoms, as apathy, irritability or euphoria, or morbid anxiety or fear, frequently develop early and the subsequent course of the case is strongly influenced by the mental attitude.

DIAGNOSIS.

There is no other disease of the nervous system in which error or diagnosis is so frequently made. Almost any nervous disturbance of locomotion is commonly diagnosed locomotor ataxia and the lightning pains are not infrequently diagnosed as neuritis or rheumatism. The crises are commonly mistaken for other pathological processes, such as gastric ulcer, gall stones or appendicitis. I have seen many cases in which the patient underwent several operations, as many as seven, due to these faulty diagnoses. With ordinary skill and care there is scarcely any excuse for this, for careful examination will always elicit either the presence of syphilis or some of the cardinal diagnostic symptoms of tabes, which are, of course especially, loss of pupillary reflex to light with retention of it to accommodation, irregularity or inequality of the pupils; ataxia; loss of station and absence of patellar reflex. Gastric ulcer can be eliminated by the history, absence of positive signs of syphilis, analysis of the stomach contents and behavior and incidence of the pain in relation to the taking of food, the absence of blood in the stool; gall stones, by the absence of jaundice or other signs significant of the occlusion of the bile passages or presence in the duodenum of products of cholecystitis, character of the pain is less sudden in onset and disappearance and apt to leave soreness following it, search of the stool will often reveal presence of gall stones; appendicitis, frequently associated with rise in temperature, rapid pulse,

leucocytosis, especially increase of polymorphonuclears if acute and lymphocytes if chronic, rigidity of abdominal muscles of the right side and with special intensity over the ileocecal region, greatest intensity of pain localized at McBurney's point; rheumatism, is accompanied by redness and swelling of joints or soreness of muscles with febrile reaction and absence of positive signs of syphilis or tabes and pain increased by motion; neuritis, absence of classical signs of tabes, presence of history of poisoning by alcohol, the metallic poisons or infection, pain upon pressure over distribution of nerves involved, presence of herpes zoster, limitation of motion, muscular atrophy; pernicious anemia can be eliminated by the history and the blood count, the symptoms are those of postero-lateral sclerosis or diffuse myelitis and the disease is usually fatal within two years; hysteria, by the presence of stigmata of this neurosis and the absence of classical sign of tabes.

PROGNOSIS.

As to this we must first understand what we mean by tabes and what we mean by cure. If we accept as our concept of tabes the old definition of posterior spinal sclerosis we cannot hope for any results from treatment, because, once the posterior columns of the cord are destroyed they cannot be restored. In that sense the condition is absolutely hopeless and incurable. If, however, we conceive of it as it is in the beginning an exudative or infiltrative process with oedema interfering with function we can be more hopeful in our prognosis, for in this stage the disease is amenable to treatment and complete restoration of the tissues and their function can be looked for. And, again, if we appreciate the psychology of this condition and realize the important role played by fear and anxiety, we have a decidedly more hopeful outlook and can speak with assurance of benefiting a very large percentage of our patients.

TREATMENT, PROPHYLAXIS.

All that can be said in this regard is that means should be employed to prevent syphilitic infection. The use of anti-syphilitic early and thorough treatment is usually strongly urged as a prophylactic means, but unfortunately, no matter how early and how thorough anti-syphilitic treatment is instituted it does not seem to have any specific bearing on the subsequent development of tabes, but what I believe to be of more importance is the establishment and

maintenance of the maximum vital resistance on the part of the patient. This is a matter that has been sadly neglected. The usual procedure is to fill the patient with anti-luetic treatment without any particular regard to his general health. This question of vital resistance is now believed to have an important relation to the fact that tabes develops so late in syphilitics and upon close investigation we can frequently find the initial tabetic symptoms developed during a period of low vital resistance. In fact the patient will frequently point to a certain incident in his career which lowered his metabolism, as an accident or overwork or shock and will be unwilling to believe that his symptoms are to be attributed to anything not associated with this particular incident or period. Great liberties have been taken in the administration of anti-syphilitic remedies in the treatment of this disease, especially since the work of Marienlesco and Wechselmann. Intravenous and intraspinal administration of the organic arsenical and mercurial preparations have attained such wide vogue that they are now used without special thought or analysis and are urged with great freedom as being entirely harmless. This, however, is not the fact for the literature records deplorable accidents following this form of treatment and many other such calamities occur which never reach the literature. There is at present in the Receiving Hospital of this City a case that was of rather benign type, patient being able to get about and attend to his business with little impediment, until he submitted himself to intraspinal treatment which was followed by a diffuse myelitis and he was brought to the Receiving Hospital in a condition of complete paralysis from the cervical region down, including bladder and rectum, accompanied by general muscular atrophy. My own method of treatment is to first pay especial attention to building up the patient's general metabolism and natural resistance and, if I believe an active syphilitic condition to be present, institute anti-luetic treatment, especially by mercurial inunctions, this I believe to be the safest and most satisfactory procedure toward this particular end. For the ataxia, psychotherapy, opotherapy, and exercises, both mental and physical, are of the greatest importance. The personality of the physician and the personality of the patient each play an important role in this connection. It is absolutely necessary that the physician have and maintain the entire confidence and co-operation of the patient and the

patient must be of sufficient intelligence to understand and carry out the directions of the physician. Fear is a very important element in the development and persistence of the ataxic symptoms and is responsible for much of the asynergia exhibited in these cases. Some patients, as soon as they develop the first symptoms of ataxia, become panicky and take to their beds and remain there for long periods. One case I saw took to his bed, almost immediately after discovering he could not walk in the dark or stand with eyes closed, and remained there for more than twenty years. Exercise, both mental and physical, with a view to developing precision and accuracy in thinking and moving are of much usefulness. The system of Fraenkel, for many years, was used with good results but has lately been superseded, to considerable extent, by the method devised by Maloney, who has his patient perform as rapidly as possible certain mental acts, as adding columns of figures, picking out certain letters or numbers or words on a large card and he has his patients perform their physical exercises blindfolded, upon the theory that the blind tabetics seem to be less ataxic than those depending upon their vision to guide them. The element of fear in destroying equilibrium can be well illustrated by an example I frequently give, namely: take a four inch plank twenty feet long and place it on the floor. Any ordinary individual could readily enough walk it, forward or backward, with his eyes opened or closed, but suspend that same plank from a ten story window and how many of us could negotiate it? The physics and mechanics of the two operations would be identical, the only difference would be the element of fear. Another illustration of this point is that many patients can walk much better with their eyes closed than with them blindfolded. One patient, whom I expected to exhibit here this afternoon, I asked what the reason for this was; he answered, "Because I know that when my eyes are not blindfolded I can open them whenever I want to and thus save myself from falling." In regard to physical exercises, after gaining the confidence and co-operation of the patient, blindfold him and have him supine on a table and instruct him to relax all of his muscles. This takes continued practice and must be persevered in until absolute relaxation takes place, then passive movements are instituted commencing with the head and extending to the arms and legs, then the patient is asked to concentrate his mind on the position

of the extremities in space and they are passively placed in various positions and the patient asked to call the position. The feet and toes are passively moved and the patient requested to state the change of position, gradually the patient is gotten upon the floor on his hands and knees (with pads on the knees) and it is astonishing to note that many of these patients are unable to maintain this position with their eyes blindfolded. After becoming accustomed to this position they are asked to throw their weight on one hand or one knee, then alternate the position from one extremity to the other until they can do this rapidly without losing their balance. From this they are brought to the erect position on their knees with arms folded and instructed to balance from one knee to the other. They are taught to walk on the knees with head erect and finally to stand holding on the wall and change from one foot to the other, then feet are raised alternately, from the floor and moved forward and backward and from side to side, then they are required to walk; and all of this is done with the eyes blindfolded. These exercises are best conducted in a rhythmical manner in time to a metronome or music, finally the patient is instructed to march to music or to dance to music, phonograph is valuable. During all this process the element of fear must be absolutely excluded and if it should crop in at any point we must go back to the beginning and gradually work up again. This process usually takes from one to three months, depending largely upon the intelligence and co-operation of the patient. Special symptoms, such as those of the bladder, must receive appropriate treatment from time to time. Great care should be used to prevent over distention of the bladder, or residual urine. It should be remembered that constant dribbling of urine is not necessarily a sign of vesical incontinence but may be due to constant seeping from an over distended bladder. Cystitis is frequently the cause of death in this disease.

I hope I have succeeded in impressing upon you a broader view of tabes. It is simply a phase of syphilis of the nervous system, not by any means confined to the posterior columns. Treatment should be directed toward the patient as well as the disease.

Kresge Bldg., Detroit.

DISCUSSION.

DR. W. H. RILEY, Battle Creek: Dr. Starkey has brought to us a very important subject for our consideration. *Tabes dorsalis* is at least one of the most frequent

diseases of the nervous system. As the Doctor has stated, it is quite frequently not properly diagnosed. I think we are all agreed that *tabes dorsalis* is a syphilitic disease of the nervous system, that is so far as the nervous system is concerned. Of course with this other organs may be involved. Now I think it is very well for us at the outset to have something of a picture in our own minds of just what happens to the nervous system when it is involved with a syphilitic infection.

We may divide syphilis of the nervous system into two groups. First, those cases where the principal lesion affects the non-nervous tissue, where the disease affects principally membranes and the blood vessels of the nervous system. Second, another class where the nerve tissue is principally affected. In this second class, we have especially *tabes dorsalis*, general paresis. And you might include in this—at least these two. Now in this second group the nerve tissue is the part of the nervous system that is especially affected. But let us also keep in mind the fact that in each of these two classes—that is in the class where the non-nervous tissue is principally affected, the nervous tissue is also affected but in a less degree than the non-nervous tissue.

On the other hand, in *tabes dorsalis* and general paresis, where the nerve cell and the nerve fibre suffer most, along with this, we also have or may have and do have the blood vessels and the membranes also affected. We may have in addition to this gumma. So that these two classes are distinct and separate one from the other. They both have a thousand things common to each.

Now, syphilis produces then the following changes in the nervous system: It produces a meningitis. It causes changes in the arteries, and endarteritis; and as a result of the endarteritis we may have the blood vessel occluded, the blood supply cut off and we have an acute softening. That, of course, is not a syphilitic lesion but is one of the results.

Then where the spirochete affects principally the neuron as in *tabes* and general paresis, the nerve tissue itself may be destroyed and you have primary degeneration.

Now, in our therapeutics it is very well when you have a patient to treat with syphilis of the nervous system, no matter whether *tabes* or general paresis or so-called cerebrospinal syphilis—if we form in our minds a picture of the pathological changes present in our patients, I think it will help us in our therapy. I think we can all readily understand that when we have a blood vessel occluded and an area of acute softening, there is nothing under the heavens we can do to restore that area. Your anti-syphilitic treatment, so far as that is concerned, will do no good. And also, if we have a neuron that is degenerated as the result of the action of the spirochete, if a nerve fiber is degenerated or a nerve cell destroyed, there is no power under heaven that can restore those. Now, on the other hand, there are certain lesions of the nervous system that are amenable to treatment. I am sure some of our oldest members, who have had experience back for years, can recall cases of syphilis where they relieved a syphilitic headache by the use of potassium iodide. You have a gumma, and those inflammatory conditions of the nervous system are amenable to treatment. You can accomplish something there, but you can not do anything to a degenerated nerve fibre or nerve cell or an area of acute softening. So our therapeutics is limited by the pathological changes that are present or may be present in the nervous system. Now, I speak of this in this connection because it not only is important from a pathological standpoint but it has a very important bearing, I think, upon our therapy.

Now, with reference to the symptomatology of *tabes*, of course it is very large and it is variable and it is so perhaps for several reasons. First of all, it is a progressive disease and our text books divide it into three stages. So that our symptomatology is not the same in any one of the three stages. Then, more than this, the disease enters the nervous system very differently in different cases. Just to illustrate. For instance, we have one group of cases known as the neuralgic form, where the patient simply suffers pains and perhaps has no ataxia at all. Then he goes on with these attacks of pain. Some of these cases have increased knee-jerk instead of loss, and I have in mind several cases where a patient has simply suffered with these pains—with perhaps no other symptom, perhaps some loss of light reflex of the eye—for twelve years, eighteen years—over a long period of time, where the disease is not progressive. Then there are many other varieties of course. So we have a great variety of symptoms which, of course, I have not the time to discuss here.

The old idea that the loss of the knee-jerk is always

present in tabes is erroneous. Some years ago I analyzed something like three hundred cases. In quite a number of these—I don't remember the percentage—but quite a large number, the knee-jerk was neither present nor increased. Now, you do get, in quite a number of cases in the early stages of the disease, an increase in the so-called neuralgic forms of the disease. There are many other interesting things about the symptomatology.

Just one point the doctor spoke about of the diagnosis. I have seen quite a few cases of tabes dorsalis that have been operated upon by prominent surgeons for gall-stones. I think it would be an excellent practice for all surgeons to follow to make a very careful examination of a patient before doing any abdominal operation. And after a careful examination is made, I am quite sure he will be able to find out whether the patient has tabes or not. There are some cases where the gastric crises are almost the only symptom. I saw a case like that not long ago, and I have been around a great deal. The patient had trouble with the stomach and had been treated by a great many different physicians for stomach trouble, and yet he had the gastric form of tabes.

Just a word or two about diagnosis. There is another class of cases that are very often diagnosed as tabes, which are not. There is constantly growing in our own community and in our own country a large and ever increasing number of them—cases of primary anemia, hemolytic anemia, what we formerly called pernicious anemia, with degenerative changes in the spinal cord. This disease develops insidiously. In the early stages it is not always easy to diagnose. In this group of cases you have many of the symptoms that are present in tabes. You will have in some of them at least a loss of the knee-jerk in the early stages. In the later stages, you will have a loss of the knee-jerk in nearly all of them. And you will have ataxia, and you will have other symptoms that are also present in tabes. In my experience, I have found that quite a number of these cases have been diagnosed as tabes. This class of cases I am referring to now are quite as numerous in my experience as are tabes. It is very important to make a correct diagnosis because your man that has tabes may live ten, fifteen, twenty, twenty-five or thirty years. The man with the primary anemia, if he lives three years, he does well. Many do not live that long. So that the diagnosis is important from the standpoint of prognosis.

With reference to the treatment of this disease, the anti-syphilitic remedies do not give us the brilliant results in tabes and general paresis that they do in the earlier stages of syphilis. Now, the spirochete in tabes and general paresis is supposed to be in the nerve fibre and in the nerve cell. In order for our remedy to be of any value it must come in contact with the spirochete and that seems to be a significant thing to accomplish and that is why the intraspinal methods have been introduced because in order for our remedies to get in contact with the nerve tissue, it would have to pass through the lining of the membranes of the brain in order to come in contact with the spirochete. That is, if we put it into the blood—I mean that is why the other way has been suggested, I have never seen any brilliant results from the intraspinal injection. I understand at the Rockefeller Institute at the present time they have abandoned that method of treatment and even with the intravenous method I have not seen anything very brilliant from the use of these newer remedies in the early stages of syphilis and where the syphilis affects other parts of the body.

Now, the doctor has referred to the fear of the patient. I think we can do very much with these patients by looking after their general health. The pains are apt to be more severe just before a storm or in cold weather. Have your patient go to bed and stay in bed for half a day. You can very often avoid a severe attack of pain. I have found that a sinusoidal electrical bath as a means of relief of pain—along with that massage—affords the needed exercise the doctor has referred to and recommended by Fraenkel and the other man in New York. I have seen some very good results from that. These patients are hypotonus. Their muscles are very much relaxed. Sometimes the sinusoidal current will help to tone up the muscles. We have here a grave and difficult disease to treat and yet I think if the disease is taken in the early stages and the patient is carefully instructed in regard to his habits of living, that a great deal can be done for them by proper instruction and keeping up their nutrition.

A very curious thing—you see, this disease develops sometimes ten, fifteen or twenty-five years after the original infection. When the symptoms of tabes appear, the patient

loses flesh and he looks yellow. I often wonder how a man could have the spirochetes in his body for ten, fifteen or twenty-five years and not show any general symptoms of it, and then ten, fifteen or twenty years after not only develop symptoms of tabes but also have general symptoms affecting his whole body. I suppose they become active at that time and affect the whole body.

DR. I. L. POLOZKER, Detroit: I think lately that has been the consensus of opinion of everybody, that the etiological cause of tabes is syphilis. They have tried to get us away from it. The symptomatology of this disease is so variable and the onset is such that it stands out plainly why so many of those cases are not diagnosed. We are surprised, from the literature very often, with the number of operations performed upon patients, where a thorough examination would have revealed a diagnosis early.

I don't differ with either of the gentlemen in regard to treatment. I have seen some beautiful results in the early cases of tabes with the intraspinal injection. I admit that you can not restore a destroyed nerve cell, neuron or any other nerve tissue; but you can arrest the spread and progress of that disease.

I was rather surprised at the doctor's statement that by suggestion he has gotten his patient so far he was not afraid to walk with the eyes shut and everything else, but he was afraid to come down and show it before this society; so he has not entirely gotten the confidence of his patient. I do believe though, that a good deal can be done that way.

DR. COLLINS H. JOHNSTON, Grand Rapids: I was interested in the doctor's statement that sometimes mistakes were made in the diagnosis of pernicious anemia and a case of tabes. A number of cases of that kind have come under my observation. One, a case of pernicious anemia which had passed through the hands of more than one man, after perhaps a rather careless examination—owing to the spinal cord lesion which you find with 60 per cent. of pernicious anemias—had been diagnosed tabes.

Bearing on Dr. Riley's statement of those patients not living more than three years. I recall one whom I treated with salvarsan, one of the first cases of the kind to come to my personal observation, who is in better health now than four years ago. There is one differential point that Mix of Chicago brought out three or four years ago, and that was these cases of pernicious anemia never have the eye symptoms that cases of tabes have. The ones that have come under my observation since reading that article have always had an absence of the eye lesions.

Another class of cases which I have sometimes seen difficult in differentiating between, are cases of multiple neuritis and tabes. Two such cases have come under my observation lately. One in a man who had several Wassermann's made, so absolutely sure was the attending physician from the absence of tendon reflex and the presence of pain, it must be syphilis. More than that his eyes were gone over by two eye men, neither of whom were able to say definitely there were no eye symptoms present. I know that was not syphilis because the man is almost well, the condition having existed about four months.

Another one is a doctor of Grand Rapids, who, several years ago, passed through the hands of several of us. Finally I made a diagnosis of multiple neuritis. He did not believe it. He thought he had locomotor ataxia. I sent him to Chicago, to Billings, who put him to bed in the Presbyterian Hospital for a week. Billings finally sent that man home with a diagnosis of multiple neuritis rather than tabes dorsalis. He went to bed and eventually made a very good recovery in about five months.

Those are the cases sometimes hard to differentiate from tabes dorsalis.

DR. C. D. AARON, Detroit: A year ago a proctologist made the assertion he had found every case of tabes dorsalis suffering from a chronic sigmoiditis. During the past year I had occasion to see one case, and this man added that every case of tabes dorsalis that he treated for chronic sigmoiditis, the patient improved. During the past year I had one case. I treated that patient's sigmoid, and the patient did improve.

Again the thought came to my mind, when Dr. Starkey read his paper, whether it was a psychic influence, putting the sigmoidoscope into this patient, the application to his sigmoid—it is possible the psychic influence improved the condition.

DR. FRANK R. STARKEY, Detroit: In regard to anemia, pernicious anemia, being mistaken for tabes. That is scarcely excusable; but then of course, as you know, almost anything from a neurological standpoint that inter-

feres with walking is diagnosed as tabes. Hysteria is not infrequently diagnosed as tabes. I had a case only a short time ago. I thought at first he had a bulbar paralysis. He turned out to be hysteric and he had been diagnosed as tabes. I want to impress the advantage of psychotherapy. I believe it is of the utmost importance.

Regarding this particular patient that was to come here—I did not have his confidence and I never will get it, and for this reason he did not progress as fast as he should.

It is rather characteristic for tabes to develop late.

As to the etiology. I don't want you to think I am trying to start something new in regard to the etiology. I accept that it is syphilitic, so far as we are able to demonstrate at present. And yet I think it is within the bounds of possibility we may change our view. Sometimes I think it is perfectly possible that focal infection from a remote place could attack the posterior columns and produce a syndrome similar to that of tabes or exactly the same as tabes, or even destroy the posterior columns. Don't think for a moment that syphilis has any strangle hold on these columns. Anything that would destroy them would produce the same symptoms. The symptomatology depends upon the physiology of the anatomical structure attacked.

So far as the eye symptoms in pernicious anemia are concerned, you would not get the Argyll-Robertson pupil but you do get miosis. It does not seem possible that any one would make an error of diagnosis.

ANGINA PECTORIS.

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The word "angina" means a choking sensation accompanied by chest pain. The term was first used by Heberden in 1768, but it is claimed that the first precise description of it was in a letter by Rougnon to Lorry, published a few months before Heberden's description. Heberden's outline of the symptom complex of angina was considered "so acute and comprehensive" that while later authors have tried their best to confuse it, they have been able to add very little to it. Everybody is familiar with the fact that John Hunter suffered with this disease.

Some have denied that angina should be classed as a disease, maintaining that it simply refers to a group of symptoms due to a definite pathology of the heart including the coronary vessels and first few centimeters of the aorta. Albutt chooses to class it as a definite disease. E. Fletcher Ingalls who was a sufferer from angina for many years wrote an article on this subject shortly before his death and gave the following definition: "Angina pectoris is a paroxysmal, painful disease of the circulatory organs in which the pain is normally located near the base of the heart, over the large arteries and in the shoulder, back and arms, most frequently confined to the left side, but often in the right side. It is often attended by dyspnea and commonly by mental depression, and a sense of impending death, which must not be confounded with fear." In this same article

he questions whether the group of symptoms attending angina should be dignified as a distinct disease.

Older writers recognized a pseudo-angina, but most modern writers doubt if such a condition is possible. Sir James Mackenzie is very definite on this point, stating that such a condition does not exist. In my limited experience, I have failed to observe cases that I could call pseudo-angina. The cases referred to by older writers as pseudo-angina were frequently found in young persons, and it is at least permissible to suggest that many of these cases belonged to the class that we now recognize as "irritable heart" or "neuro-circulatory myasthenia," being based on entirely different factors as compared to true angina.

In the ordinary discussion of this symptom complex, I sometimes question whether we should refer to it as angina, coronary sclerosis or chest pain. Many of the laity have an abnormal fear of angina because they have associated with the term the idea of impending death. The term "coronary sclerosis" refers to a definite pathology, but it is not always the fundamental thing that causes the symptom complex of angina. Chest pain is more simple, and refers to the chief symptom in the complex, although its actual origin may vary within certain limits.

In order to understand the cause of the group of symptoms classified as angina, we must thoroughly understand the physiology of the circulation, and particularly that which has to do with the blood supply of the heart muscle and the first few centimeters of the aorta. We must remember that the tissues of the body must be supplied with blood in widely varying quantities according to whether the body is active or at rest. A certain standard must be maintained through all the variations between rest and activity. The margin of efficiency must always be rather wide in order not to encroach upon the limit of endurance. It has been estimated by Starling and others that when the body is fairly active, the heart muscle alone must have from three to five times as much blood as when the body is passive. The same principle applies to other organs of the body, but the heart must be considered capable of keeping a proper blood stream going to all parts of the body and always through the same channels. Fundamentally, we must always remember that the heart muscle is responsible for the blood supply and when the muscle fails in its

work, then signs of distress will develop, resulting in incompensation.

The pathology of angina is based on the organic changes that are found in the coronary vessels, myocardium and beginning of the aorta. The first few centimeters of the aorta must be included because this part is supplied by the coronaries through small branches which anastomose with the small vaso-vasorum from the bronchial and pericardial arteries. The cause of angina symptoms is generally believed to be due to various degrees of occlusion of some of the coronary vessels, and this may be developed suddenly by thrombosis or by a slowly developing obstruction or occlusion such as occurs in arteriosclerosis. It is self-evident that partial or complete obstruction to vessels of the coronary system will sooner or later produce grave changes in the myocardium through interference with the nutrition of the muscle.

Le Count of Chicago has recently reported the autopsy findings in sixty cases of sudden death, thirty-four had a fibrous myocarditis with sclerosis of the coronary arteries, and twenty-six more or less acute occlusion. Of the twenty-six with acute obstruction eleven were found to have some traces of syphilis, and the obstruction in the coronary arteries was in the most instances a thrombosis. It may be argued that many of these cases may not have had angina, for unfortunately, the history was not available in many of the cases, but it is clear that a large number may have died in the first attack of angina. The best example are those that died of acute occlusion of the coronary arteries by thrombosis. Herrick and others have reported such cases giving well defined symptoms which would justify a diagnosis of coronary thrombosis, and in most of these death may be expected to occur in a comparatively short time.

The exciting cause of the symptoms in angina may be variable but in the great majority of cases exertion is usually connected with the first attack as well as succeeding ones. In some cases, the first attack will develop all of the classical symptoms with fully developed chest pain radiating over the arms and shoulders, while others merely complain of a feeling of oppression in the chest, this becoming more and more frequent and severe until it is a definite pain. Anger or other intense emotional disturbances in some cases may be the first disturbing factor, but in a large percentage, the first attack is noted after some physical exertion.

Various authorities on cardio-vascular disease have advanced different theories concerning the cause of the chest pain. Mackenzie leans strongly to the supposition that the chest pain is due to muscle exhaustion which distributes the pain over the area reflexly connected with the heart and beginning of the aorta. He claims that when exertion is indulged in sufficient to produce pain, it is the cry of the myocardium for more nutrition and states that even in normal individuals exertion can be indulged in to the point where there is a pain resembling that of angina. Another reason for thinking it is due to the lack of blood supply to the muscles is the results noted in intermittent claudication. In this condition, the arteries of the legs are very much sclerosed and the caliber is greatly reduced. When such individuals walk rapidly, there is noted pain in the calves of the legs, described as a cramping sensation. Almost immediate relief is obtained by resting. Such individuals will usually stop for a moment, or perhaps lean against a building or even sit on the curbstone to rest. I think all agree that in intermittent claudication, the pain is caused by a lack of blood supply to the muscle. The production of the symptoms in angina pectoris and intermittent claudication are both ascribed to exertion and are relieved by rest, so that it is reasonable to consider the conditions parallel as affecting the muscle. Others advance the theory that the pain originates in the blood vessels and is the result of stretching the aortic walls. The same condition may apply to the coronaries. There is no doubt that pathological changes in the beginning of the aorta are frequent, and that pain is evidence of this, as shown in cases of syphilitic aortitis; and we have cases of angina pectoris where the seat of the trouble is more in the aorta than in the myocardium. Arterial spasm is also advanced as a cause, based in part on the fact that the spasm of the blood vessel interferes with the supply of blood to myocardium and because of this interference, pain is produced. This spasm may be produced by toxins circulating in the blood, having a more or less direct effect on the blood vessels or it may possibly be produced through the nervous system.

I think there is no doubt in the minds of the profession that any and every case of angina pectoris should be diligently searched for any possible foci of infection that may be a distributing point for toxins, having a profound effect on the body in general. In my experience this has proved of extreme importance

especially in cases where the angina symptoms have been of comparatively short duration. I cannot emphasize too much the importance of careful study of the tonsils, teeth, sinuses and gall-bladder as possible foci of infection as I have had striking results in the removal of infection from all of these points in patients suffering with angina symptoms. Allow me to refer to one case with typical symptoms of angina brought on by exertion so that he was unable to walk more than a block without severe pain. X-ray of the teeth revealed several apical abscesses and removal of these teeth was followed by almost complete relief so that in the course of two weeks, the patient was able to walk three or four miles a day without any discomfort whatever. I have had similar experiences from the removal of diseased tonsils.

The prognosis of angina pectoris is very uncertain. It is impossible for any one to predict with any reasonable degree of certainty the length of life that individuals suffering with angina may expect. In my experience, I have had a number of cases that suffered such intense pain with recurring attacks throughout the day or night that frequent use of nitroglycerine had to be resorted to in order to obtain relief. If the question had been asked, one would have been inclined to say that the individual would be likely to die almost any time, and the prospects of living more than a few months were dubious. One such case was under my care more than four years ago, and improved slowly, so that within several months, he was able to walk about the city without much trouble. A few months ago, I had a letter from him stating that he was greatly improved and rarely had any attacks of angina. On the other hand, I have had cases that apparently suffered much less and died within a short period. Much, of course, depends upon the habits of living and the attitude of the patient toward the disease. If they are always apprehensive as to the outcome, they stand much less chance than those who take it philosophically. The condition of the blood vessels is something of a guide in the prognosis. If the arteries are extensively sclerosed, we must conclude that the prognosis is unfavorable; the danger being acute thrombosis of the coronary arteries.

In the management of cases of angina pectoris, it is necessary to assure the patient that the attacks are not fatal, even if the pain is severe, and they must be made to accept the pain as a warning so that whenever the first symptoms manifest themselves, they will stop

and rest until the pain is relieved. In presenting this feature to the patient, he is likely to be less apprehensive and we thus eliminate the fear and anxiety as factors in causing these attacks. Next, we must see that all possible foci of infection are eliminated, as above referred to, and also emphasize the importance of proper elimination by way of the intestines and the kidneys. These patients should be placed on a laxative diet that is not too bulky, and if necessary, mild artificial remedies used to secure proper elimination. In conjunction with this, the exogenous toxins indulged in by many of these cases in the nature of alcohol, tobacco, tea, coffee, and the excessive use of proteins should be proscribed if possible. Everything should be done to give the patient the best chance as far as general health is concerned. When this has been done, other treatment may be considered. Many authorities favor a complete rest cure, but in my experience, I have not found this satisfactory. While it is true that these patients during the period of the rest cure experience no pain, as soon as they endeavor to resume activity, even moderately, they are troubled more than ever, which is very discouraging.

For a period of four years, I have observed a number of these cases, and I have advocated the policy of urging them to take all the exercise possible, short of producing discomfort or pain. I instruct them to rest on the slightest evidence of discomfort or chest pain. Furthermore, I always advise them that in walking, they should start out slowly and gradually increase their gait. This prevents the lowering of the muscle tone and if persisted in, gradually increases the efficiency of the heart muscle. If this can be done, the chest pain is less apt to develop with moderate exertion.

In conjunction with the exercise, moderate massage, mild hydrotherapy including Nauheim baths have proved beneficial. In these treatments, however, anything in the nature of a sudden insult to the circulation should be avoided, as this is likely to bring on a paroxysm of pain. In cases with increased blood pressure, high frequency will prove beneficial, and in some cases diathermy has served to relieve the pain. In giving the Nauheim baths, it is important that the temperature be gradually reduced to about 92 degrees during a series of baths, and that immediately after the bath, the patient rest on a couch for at least half an hour.

Medication should be instituted, first for the immediate relief of pain and next, for the improvement of the efficiency of the myocardium. For the first, nitroglycerine is probably the most valuable, and this can be given in doses of 1/200 to 1/100 of a grain. The patient should be instructed to place the tablet on the tongue, and not to attempt to swallow it with water. In this way, almost immediate relief is obtained. If necessary, the dose of nitroglycerine may be repeated without any danger whatever. Occasionally, we find a patient in whom amyl nitrite gives better results than nitroglycerine. To improve the efficiency of the myocardium, and in this way decrease the muscle exhaustion, digitalis is of the greatest value. This is particularly true in cases where there is dyspnea or evidence of myocardial insufficiency. It is my habit in all cases of angina with the least evidence of cardiac embarrassment to give a rather vigorous course of digitalis therapy. This particularly applies to cases where the pulse rate is above normal, and where there is the least evidence of shortness of breath or edema, and the results have been decidedly gratifying. When the above efforts fail to give relief, the use of diuretin may be tried as first advanced by Von Noorden. I usually give 5 to 7½ grains in a capsule three times a day, occasionally securing very satisfactory results.

In cases of emergency, where nitroglycerine does not afford relief and there is danger of death, morphin should be used hypodermically for the relief of pain, and in the average case 1/6 morphin with 1/150 atropine will give relief.

SUMMARY.

1. Angina pectoris is a disease of the coronary vessels, beginning of the aorta and myocardium.

2. The disease is evidenced by subjective symptoms of chest pain beginning in the region of the precordium and radiating to the left shoulder, arm, neck and back, and sometimes to the right arm.

3. The symptoms are probably the result of muscle exhaustion due to an insufficient supply of blood to the myocardium or stretching of the aortic ring.

4. These symptoms may be greatly aggravated by focal infections such as teeth, tonsils, sinuses, gallbladder or toxins from faulty elimination by way of the bowels or kidneys.

5. Exciting causes of the symptoms are exertion, anxiety and emotion.

6. Treatment: General conditions affecting the health of the body should be carefully adjusted, foci of infection and sources of toxemia removed as completely as possible. Digitalis should be used to improve the myocardial tone.

7. In cases of emergency, immediate relief of pain should be obtained by nitroglycerine, or morphin with atropine.

DISCUSSION.

DR. W. M. DONALD, Detroit: I am very glad indeed to respond and am glad of the opportunity of talking on Dr. Mortensen's very excellent paper on the subject of angina pectoris.

I don't know as there is a great deal I can say on this matter. It seems to me in an academic way, Dr. Mortensen has covered the ground completely. There are a few points on which there is a slight divergence of opinion. Before going to these, I would like to mention a point, and that is this: In all cases of sudden death, we should absolutely refuse to sign a death certificate until we know the exact cause of death and thereby would we enhance our own knowledge and the knowledge of others in the profession as to angina pectoris, one of the various causes of sudden death. In our laziness, in our effort at obtaining the good will of our patients, we are too lax; and, consequently, fail to add to the world's knowledge.

The information Dr. Mortensen has given us is interesting and especially valuable. Now, I must confess the thought comes to me, there may be cases of neuro-muscular disease—there may be cases of sudden disturbance, mental disturbance of the individual. And whatever they are, I don't care; they seem to form a symptom complex. And Dr. Mortensen to the contrary notwithstanding, I feel almost, in justice to myself, like adhering to the old nomenclature. I apply the term "angina pectoris" to a certain group of cases. Where the patient is low, and there are so many factors to disturb their mental faculties, I call these pseudo-angina pectoris. We can do more good than in ordinary cases of angina pectoris.

So far as the cause of the disease is concerned, it always occurred to me as being a case of cardiac anemia. Whether that be due to stretching of the muscle fibers, due to dilatation of the heart—I have seen any number of cases due to this particular cause—or whether due to an aortic disease or whether due to a coronary disease or whether it be due to a spasm of the coronaries—it could not be characterized as a disease but simply as a functional disturbance. Whether, I say, any of these factors be present or whether they all be present, the pathology of the disease is anemia of the cardiac musculature. Because of the coronary sclerosis, of course we have a gradual increase of anemia. In cardiac spasm again we have myocardium anemia. In diseases of the aortic group, we of course again have a sclerosis of the apertures of the coronary vessels and consequently subsequent anemia of the myocardium. So that, in my judgment, the cases are all practically cases of anemia of the myocardium.

There is just one other point I want to bring up in this connection. These cases are exceedingly dubious and uncertain. Those we expect to get better, die; and those we expect to die—fortunately for them and unfortunately for our reputation—get better. But the cases are undoubtedly of exceeding doubtful prognostic individuality.

I make a practice of telling my patients frankly, lying cheerfully, that they are going to get better, and minimize as much as I dare, trying to square my statements with my own conscience, minimizing the gravity of the disease. Unfortunately for my own peace of mind, deep down in my heart I am watching the death notices in the papers to see that so-and-so died suddenly the day before, knowing the true character of the lesion and the true character of the disease. Fortunately for those cases, I rarely have an opportunity to exploit my pet scheme; and somebody else is called in to sign the death certificate and the patient hurried away without an examination of the heart, which should be done in such cases.

There is one other point and that is in regard to the point about focal infections. I don't think in these cases the foci should be removed. Infected tonsils, of course, are a source of danger. This comes deep from my heart. If there ever

was anything that has been exploited to the detriment of the profession—or shall I say to the detriment of the public—so damaging (except to depart, that holocaust upon the ovary perpetrated by our profession about twenty-five years ago), it has been the useless sacrifice of teeth where a little, point of infection has been found up in some root; and the physician, for lack of anything better, has had the whole official cavity denuded of teeth. Might as well die almost of angina pectoris, might as well die suddenly and peacefully as die by inches as so many of these people do. In such case, I have said remove a tooth or two; but for little persistent neurotic pains, little persistent myalgic pains, to simply send the patient to an X-ray man and then ruthlessly eliminate from his mouth all the teeth in order to cover his own ignorance, then I absolutely protest.

DR. E. W. HAASS, Detroit: I think that we can be quite justified in regarding angina pectoris as a symptom rather than a disease. Of course, it is so closely associated with certain factors that we may, in some cases, of course, regard a coronary sclerosis and the symptoms of angina pectoris as one and the same thing. However, I think our pain of arthritis is of an entirely different prognostic value and subjected to entirely different treatment. I don't mean to say we can't have some arthritic pain that depends upon a condition in the mouth.

Vaso motor angina pectoris. These are the ones that can be benefited by removal of focal infections. When a patient has once developed a sclerosis, it is foolish to imagine the condition can be eradicated by the removal of some focus.

Two patients I had developed, six years ago—one was a tea taster who had typical attacks of angina pectoris. The blood pressure would go up with a typical attack. The other one was an excessive tobacco chewer. Typical angina pectoris without any demonstrable at least sclerotic process. Those are very different cases. But where the blood carries some toxemia, the result possibly of tooth abscess or a tonsillar affair, those patients, of course, can be benefited by the removal of the focus; but the removal of the focus will not have any effect upon a well established neurotic process.

DR. H. A. FREUND, Detroit: Mr. Chairman, the paper of Dr. Mortensen brings up the time honored discussion of what angina pectoris really is. I think at the present time if we are satisfied to accept angina pectoris as a syndrome rather than as a disease, we have gone as far as we can with the subject. I am in hearty accord with what Dr. Mortensen says in regard to pseudo angina.

One point Dr. Mortensen did not mention in particular in connection with that is the fact, I think the older text books mention to a large extent, the rarity of angina pectoris in women. That is not my experience. Angina pectoris occurs in women and occurs not infrequently with just the same intense symptoms we see in men. True, that is not as common, perhaps, because of the difference in the mode of life of women. They are relatively not as prone to the strain. Syphilis and aneurism do not occur as frequently. Among them we do not see the marked symptoms of myocardial disease the way we do in the male. However, angina pectoris does occur in females, and the use of the term pseudo angina is a very dangerous one.

I think the main query on that subject will simply be a matter of prognosis. We simply convey to our own minds, we hypnotize ourselves to the belief that it is not a serious disease and we put it in the discard in the matter of being dangerous to the individual. I think we should regard all precordial pains radiating around the left arm and neck as being under a group which may be due to certain cardiac conditions.

Dr. Mortensen has summed it up in saying, due to myocardial anemia. I think rather it is ischemia, that is the failure of blood supply to some part of the myocardium.

Whether due to endarteritis, whether due to myocarditis from infection, sclerosis, really makes little difference in our conception of what the disease is doing in a patient. It is really ischemia, and whether it might exist in such a case as Dr. Haas has mentioned is also important. Still, we must not lose sight of the fact that there are many cases of generalized sclerosis in which we have angina symptoms. Where, in post mortem, the heart shows a marked thickening of the coronary vessel, such individual never possesses any of the symptoms of the real angina pectoris. That brings us to the fact there must be something else that occurs besides the sclerosis or ischemia. I think in a great many cases, the mental state plays a large part.

I think when Dr. Mortensen encourages his patients to walk, beginning slowly and increasing their walk, he does one great thing outside of exercise. He really brings to their mind the possibility that they can walk. He makes them believe that,

although suffering from a disease from which they can not walk, by carefully increasing the exercise, they will overcome the disease. The psychic factor is enormous and should be considered.

In the therapeutics of this disease, the importance lies not in the general measures, but in the elimination or rather in the estimation of what are the things that are most likely to cause angina in the individual. I think there is where the main thing lies in the treatment of our case.

If we must treat our case symptomatically, first of all nitroglycerine should be used. The most useful way I have ever found is taking one per cent. of spirits of glonoin and putting it on the back of the tongue. In that way, the patient gets about one-one-hundredth of a grain. The tablets are varying, whereas the fresh solution is always to be had; can be freshly made up and can be used by the patient and by the attendant of the case. If nitroglycerine or any of the nitrite series are of no avail, I believe the patient should be allowed to use morphia. It does more to relieve these patients than any other single thing.

In myocardial disease, we frequently see signs of cardiac failure increased in the right border of the heart, slight dyspnea and some cyanosis on exertion and may be other symptoms referable to the beginning of cardiac failure. In such a case, the use of digitalis is indicated. The use of digitalis in a neurotic heart, where there is no failure in decompensation, might do harm. I have seen such patients suffer more severe attacks by the use of digitalis where there are signs of contra-indication.

I may add one thing more in the therapy of the case of angina associated with syphilitic disease, that is, in the anti-syphilitic treatment. I have seen great harm and danger come from too radical and too severe treatment of cases of angina by the use of large doses Salvarsan. I know that is done at times, especially with aortic lesions. I have seen in two instances, giving large doses of Salvarsan, and in one case resulting, in twenty-four hours, in death. I believe our time honored use of mercury and iodides is the essential thing until such a time as we feel safe in giving more stringent therapy.

THE CHAIRMAN: Personally, I don't like the division into angina and pseudo-angina. I think we ought to use some specific terms. When I talk to medical students, I say, "Either they have angina or they have not." I have discarded this term of pseudo-angina.

There was not the stress laid on syphilis that is very often laid. I don't believe that every case is due to syphilis. That is a contention that some men make, and men whose opinions I value, too. I sometimes see doctors with angina pectoris, and I don't want to think that all my doctor friends that have angina pectoris have syphilis. It may be that is true. I really don't think that obtains in every case. I personally do not believe it is so.

I am glad Dr. Mortensen brought out the fact of focal infection and the possibility of other infections. It can't be simply that angina is poor nutrition of the heart muscle, because in any number of cases of heart disease of long standing, they must have had the condition, and yet don't have the angina. I have always had the idea there must be some pathological change around the root of the aorta, as well as some pain in the heart muscle itself. That is the opinion which I at the present time hold.

The main medication, it seems to me, is iodides, persisted in for long periods. Digitalis I have found useful. Of course, there are signs of decompensation. Another drug which I believe is helpful, one which I use in a great many of the cases, is theobromine and sodium salicylate. I think it is beneficial in producing a better blood supply to the heart itself. When it comes to the use of the nitrites for my use I generally use perles of amyl nitrite. I generally have the patients get a box of the perles and have them on hand. The method Dr. Freund uses is valuable, but when people have to use the nitrites over a long period of time, why, the use of the spirits is not so easy as the use of sodium nitrite. I find that I can generally control the blood pressure pretty well in these cases. I found the use of the tablets, half grain doses, four times a day, will generally give me what results I need, by means of such agents.

One drug which you should not use—and Dr. Haass has given us a clue as to why—in these cases is caffeine. Any of the caffeine group seem to be productive of harm in these cases. They increase the angina.

As far as local measures are concerned, I find that the use of the electric pad is about the most comforting thing. There is weight with the hot water bottle. With light things, such as an electric pad, which brings a degree of heat to the precordium, it will give great relief.

In that connection, I want to say that really the best thing for the patient is not to stay in a cold climate. I have one patient who goes to Florida. I used to get fifty or one hundred a month during the winter. He goes south and does not need a doctor down there. Once in a while, he calls in to see how his blood pressure is getting along. I know a physician who went down to Florida and now contemplates changing his place of practice to Florida, because he found he got so much relief from going there during the winter. The cold climate seems to have a had effect on him. By getting in a warm climate, they have dilatation and lowering of the blood pressure. However that may be clinically, we do find that these patients practically all do much better in warm climates.

DR. M. A. MORTENSEN, Battle Creek: I thank the gentlemen very much for the discussion they have brought out. It is a subject that has interested me very much for a number of years, and it is gratifying to me to know that other people who are interested in it are on the fence on some things just as I am. It is on occasions like this we some times can get help in crystallizing our ideas.

I heartily agree with what Dr. Donald said in regard to the question of autopsies. I think, we, as a profession, in all classes of cases, are probably very lax in trying to get autopsies, and in that way lose a definite conclusion as to the condition or the findings in the patient that we have been treating. I think this applies very definitely to the cases such as Dr. Donald referred to, and also, cases of renal diseases in connection with arterial hypertension. It is a condition that interests us very much in conjunction with cardiac pathology. There is a great deal in this subject that is still not unfolded to us. By a careful study of the autopsy findings in many of these cases, we might get more light than we have.

The question of pseudo angina is one that is troubling me. My experience has been in cases of where the question is whether that patient had pseudo angina or not—after a very careful study of the patient from all angles, I have not been able to come to a conclusion that the patient had the definite pathology that we ordinarily associate with angina and consequently I do not feel justified in diagnosing pseudo-angina.

With reference to the removal of foci of infection, I deplore very much the experience of many people of the promiscuous removal of teeth and tonsils. This, I think, is a very unfortunate thing that is practiced by some. We should not depend alone on the fact that there is a little infection, but if there is extensive infection in either teeth or tonsils and the condition of the patient will permit, then I think we should advise the removal of the foci of infection; but not necessarily promise the patient that removal of the foci of infection is going to relieve any symptom of which they specifically complain. I feel this way: in such cases where there is definite infection the patient will be better off without it than if we let them go on with it.

Dr. Haass' remarks on the vaso motor conditions is another very interesting phase of cardiac pathology from the symptomatic standpoint at least. It is here again that the foci of infection may play a part, that the toxins from some foci may be the cause of vaso motor disturbance. We all know this, that it is not unusual to have a patient with an increased blood pressure, where you remove the foci of infection, the blood pressure will subside and various other toxins eliminated will have the same effect.

Dr. Freund's remarks with reference to angina in women are interesting. I have observed the same thing in the literature, but I find that the angina complex or syndrome occurs very frequently in women. Yesterday morning I saw a woman 54 years old with a blood pressure of something like 230 that had had, during the night, typical angina symptoms of a very severe degree. Those are not at all uncommon at present. It is likely that a change in the habits of life that occurred in the last 15 or 20 years has brought some causes to act in women that are acting in the male sex as to strenuous life.

With reference to medication and the use of nitro-glycerine: I have had some experience that Dr. Freund refers to in cases where nitro-glycerine is necessary. If it has to be taken frequently because of frequent attacks of pain, then the spirits of glonoin probably will act better than the tablets. But the tablets are more convenient, as a rule. If the patient carries them for a month, they will degenerate and they only use those occasionally. The same thing is true, of course, of the spirits of glonoin. They must go and have it refilled or made fresh at frequent intervals.

Digitalis therapy should be used cautiously, as indicated by Dr. Freund. And we must not give a patient a large amount of digitalis and tell them to go and take it, and not expect to see that patient in the course of a few days again. When I give a patient with angina pectoris digitalis, I never pre-

scribe more than half an ounce at a time. And then I expect to see that patient every two or three days, and see what the effect of the digitalis is, and in that way little or no harm will be done; but if we are careless and forget that the patient is taking digitalis and give them—some prescribe one or two ounces of digitalis—they may keep it up until they reach the danger point. In cases where there is suspicion of syphilis, the Salvarsan must be used cautiously.

I have had a similar experience this winter. A patient had a marked aortic regurgitation with history of, as well as serological evidence of, syphilis. I ordered three-tenths of a gram of Salvarsan. Unfortunately, the man I spoke to about this failed to get the patient's name, and he was given six-tenths of a gram with very unpleasant results. That is, the patient had marked signs of cardiac distress, which lasted about 24 hours, but, fortunately, nothing serious resulted. Syphilis, I think, should always be considered in these cases, as Dr. Wilson suggests, but we should not condemn a person as having syphilis because they have angina. We must have good reasons besides angina to conclude they have syphilis.

My experience with the iodides has been rather unsatisfactory, except in the cases where I found definite evidence of syphilis. A few years ago I used to give it not only to patients with angina, but also patients with arteriosclerosis, but I have fallen away from it entirely because the results did not justify the methods used.

Climate, I think, is important, especially in individuals that have the means to change their abode of living every year for the winter, because warm weather does have a beneficial effect on these cases of angina pectoris.

THE CHAIRMAN: Personally, about this Salvarsan, I believe it is all right to use in a syphilitic heart and aortic diseases. I never start in with a dose of more than 15 centigrams. Fifteen is the first dose. As I say, I have not had any unfortunate results so far. In some cases, I have found some little acceleration.

THE MODERN CLINICAL CONCEPTION OF PULMONARY TUBERCULOSIS.*

HERBERT M. RICH, M.D.

DETROIT, MICH.

It is not my intention to inflict upon you a long dissertation on more or less familiar subjects or to repeat the old admonitions. These are old stories to the members of this section. On the other hand it is a pleasure to realize that progress is being made in our study of the world's most dangerous plague, and it may not be uninteresting to consider our changing attitude toward this disease.

Within the last ten years the study of early pulmonary tuberculosis as found in infancy and childhood, and the development of X-ray study of the contents of the thorax during life, have gradually changed our conception of the clinical pathology of this disease.

ROENTGENOLOGIC DIAGNOSIS.

We frequently hear the remark that the roentgenologist finds tuberculosis in nearly every chest we ask him to examine. I often hear it seriously stated as a criticism of the X-ray diagnostician. As a matter of fact the remark reveals that the real relations are not understood. It is, as a matter of fact, true that the Roentgenologist finds tuberculosis in

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nearly every chest. And if we accept the statements of Von Pirquet and many others, that something over 70 per cent. of our urban population past the age of 14 has had a tuberculous infection, and if we remember that the healed tuberculous lesion is a nodule containing calcium salts, then the roentgenologist *should* find such lesions in over 70 per cent. of the chests he examines. His findings correspond to our teaching. The absurdity in the situation, if any exists, is that we should expect to find tuberculous disease whenever he finds tuberculous lesions, for tuberculous infection and tuberculous disease are two different things. The question for the clinician is, shall we tell every patient that he has tuberculosis when the X-ray report states that there are tuberculous lesions in the lung; or to put the question differently, how extensive a tuberculous lesion in the chest as shown by the X-ray may we pass over in our clinical judgement of a case?

Again the roentgenologist uses terms in his description of the findings of his chest plates which do not correspond with the text-book terms of our physical diagnosis. For example, the X-ray report may read: "Marked increase of the hilus density with accentuation of the bronchial tree, especially on the right; the same but less marked on the left. Paravertebral parenchymatous infiltration in the upper left." Such a report is of course, a brief but accurate description of what is actually seen on the plate. If our terms for the result of our physical examination do not correspond, why so much the worse for us, for as a matter of fact, such a description corresponds exactly to our present day teaching of what should be found in the lungs in early adult infection. There seems little connection between such a report and this: "dullness and bronchial breathing in upper right, few rales subclavicular on left. Harsh breathing at base." Such physical findings alone are unintelligible and unintelligent. They may exist with a perfectly normal lung. The physical findings corresponding to the X-ray plate described above would vary according to the activity of the lesion. But the fundamental findings would be constant as will be described later.

To explain this it is necessary to recapitulate briefly the manner of infection and invasion of the tubercle bacillus. The points of entrance are chiefly three: through the nose into the lymphatics of the posterior pharyngeal wall or along the tracheal mucous membrane;

through the mouth into the lymphatics connected with the tonsil, and through food into the lymphatics of the small intestine. The human tubercle bacillus shows a marked preference for the respiratory tract, and is carried to the lung in 85 per cent. of infected cases from whatever source the infection may come. Once in the lung, the invading organism is taken up by the nearest lymphatic glands, according to the defensive system of the body. If the invasion spreads it will go along the chain of glands which will lead to the hilus. Here it involves gland after gland until our "hilus density is markedly increased"—the exact language of our X-ray report.

This is the stage in which we get our clinical "bronchial gland tuberculosis" of infancy. From the hilus it spreads again along the lymphatics, most rapidly usually toward the upper lobes, then the middle, and usually the lower lobes last. It should be borne in mind that the process may be arrested at any stage of this invasion, which may undoubtedly progress slowly in this manner over several years. A well resisted infection may be confined to the lymphatics and never get any further. This slowness of progress by which a clinical process is *years* developing instead of days or weeks, is one of the confusing elements of the disease. We meet the cases at all stages in the development of the lesions, and we should be able to recognize it before the so-called "far advanced" stage is reached. Pathologically such a process is a *tuberculous peri-bronchial lymphangitis*. These lymph channels and glands follow the branching of the bronchial tree. So here is the roentgenologist's "accentuation of the bronchial tree." It is also true, of course, that at any stage of the process just described, the organism may invade the contiguous parenchyma. When resistance to the infection is slight, such invasion takes place early and may progress rapidly. It occurs most often in young adults and clinically may be our "galloping consumption." This so-called "parenchymatous type" is much more fatal than the bronchial tree type, and naturally would be if our premise is correct that such early parenchymatous invasion is due to lack of normal resistance to the infecting organism.

A third possibility is the occurrence of remissions and recrudescences of the progress of the invasion. This is the foundation of true phthisis. Here during the remissions we have the gradual formation of scar tissue with the deposit

of calcium salts characteristic of chronic pulmonary tuberculous infection. Man is the only animal subject to this form of tuberculous disease, due possibly to the fact that there is a considerable degree of racial immunity to this infection widespread in the human race. With each recurrence of the advance, new tissue is invaded and the well-known constitutional reaction to such invasion occurs. The physical findings when such a case comes before a physician are, then, evidences of previous invasions in the presence of scar tissue with evidence at some point of an advancing process, the so-called "active lesion." The scar tissue will normally be earliest found at the hilus and along the bronchial tree.

These facts explain why in examining recruits, we were instructed to reject not only those with evidence of active lesions but also all those who had signs of a healed parenchymatous lesion of any demonstrable extent. The Surgeon-General recognized that in examining supposedly healthy men, we would find many tuberculous individuals in the stage of remission, and that these men would be very likely to develop activity around such lesions under the stress of active military duty. He recognized also that the stage of remission is to be expected in the ordinary development of the course of the disease, and that if the recruit had parenchymatous tuberculous lesions, he should be rejected regardless of whether or not he exhibited rales on the particular day he was examined.

PHYSICAL SIGNS.

The physical findings of the fundamental lesions, then, should be sought for always before a diagnosis of pulmonary tuberculosis is made.

These findings are the physical signs of increased mediastinal density, always most accurately detected from the back, and signs of deep peribronchial invasion. In infancy this occurs as enlarged bronchial lymph glands, and is demonstrated by the so-called *D'Espine's sign* and also by direct percussion on the upper five dorsal vertebrae. The demonstration by percussion from the front is also more easily made in infancy. In adults the signs are (1) dull percussion note in the interscapular region, especially from the 4th to 8th dorsal vertebrae; (2) increased whispered voice with broncho-vesicular breathing in the same area. After having satisfied one's self that there has been tuberculous disease of the lungs in a given individual, then one should seek evidence of actual parenchymatous invasion.

The detection of the early parenchymatous lesion is most frequent in the upper lobes. If quiescent, there may be only an extension of the broncho-vesicular breathing. Perhaps the most certain early sign is the prolonged and harsh expiration at the tip of the axilla. This point is easily overlooked but very important. The active lesion, of course, may give rales. The parenchymatous lesion near the hilus may be very difficult to demonstrate except by X-ray, because of its location deep in the thorax.

Another contribution of the skiagraph to our knowledge of the living pathology of the lung, is the demonstration of the frequency of small areas of spontaneous pneumo-thorax and of small interlobar encapsulated empyemas. These often give puzzling physical signs and lead to erroneous diagnosis unless our findings are checked up by the ray. Thus far we have considered the relations of X-ray findings and physical signs. Since we find some evidence of tuberculous invasion in so many thoraces, the practical question arises, when shall we make a diagnosis of tuberculous disease? Certainly not in every chest where the X-ray report shows the signs of tuberculous lesions. This is when experience must lead us. It is difficult to formulate general rules, certainly in the absence of the well known symptoms of the disease, there is no occasion to alarm a patient. It would seem wise not even to use the term "arrested" unless there has been a parenchymatous invasion.

FOCAL INFECTIONS.

Having considered the cor-relation of X-ray findings and physical signs, it remains to consider the bearing of another recent clinical development: the *focal infection*. Recognized by keen clinicians since the time of Benjamin Rush, it remained for Billings and Rosenow with modern bacteriological technic to put it on a scientific basis. So far as the lungs are concerned the chief centers of focal infection are the nasal accessory sinuses—frontal, ethmoid, sphenoid and antrum; the tonsils, the teeth, and the appendix. We have long been familiar with the results of direct infection from the tonsil—arthritis, chorea, and the "rheumatic pleurisy" of the English. But the action of these foci in relation to tuberculosis is quite different and decidedly complicated. One thing seems quite evident, and that is, that the loss of resistance due to the focal infection, may be so marked as to allow a previously arrested tuberculous lesion to again become active. This

seems reasonable and observation has shown that in a considerable proportion of such cases, one or more of these focal lesions may be found. We associate consumption naturally with the status phthisicus, but we also know that many persons of robust appearance and good chest capacity develop pulmonary tuberculosis. It is in these latter cases especially that the focal lesions of importance are found. The number of instances in which pulmonary hemorrhage occurs in persons having dental apical abscesses of long standing under old crowned teeth is truly remarkable.

The painful pleuritis aside from pneumonia invariably have either such abscesses or septic tonsils. The sinus empyemas in addition to breaking down the general resistance of the body, are often accompanied by bronchial asthma, and these cases are often tuberculous if not consumptive. The vicious influence of the infected tonsil in the general organism is of course, well recognized, while pyorrhea, with the saliva alive with bacteria, is a constant menace to the health of the individual.

The treatment then of early pulmonary tuberculosis is incomplete unless it includes these possible foci of infection. The pulmonary hemorrhage will surely recur if the dental abscess is allowed to remain. The painful pleurisy will recur and extend if teeth or tonsils are septic. And bronchial asthma in these cases is never cured if the sinuses need draining. While to build up the general resistance of a patient in whose body is a chronically irritated appendix or any other active focal lesion, is, to say the least, a difficult undertaking. Another aspect of focal infection seems important. The tubercle bacillus alone rarely kills anyone except an infant. It is the mixed infection which produces the septic symptoms and the rapid destruction of tissue. Is it not logical to believe that an active focal infection may contribute steadily to such mixed infection until an overwhelming point is reached?

SURGICAL TUBERCULOSIS.

One other point remains to be discussed briefly, and that is our attitude toward surgical tuberculosis. I believe that present-day surgery of the lung and of tuberculous lesions of various parts of the body, is one of the least efficient chapters in surgery. In saying this I am not at all criticizing the surgeon for every day I realize more and more our great dependence on surgery. My remarks are to be taken as coming

from a well wisher whose only desire in the matter is to help the surgeon to better final results.

In the first place the use of large doses of tuberculin to produce a focal reaction for the purpose of diagnosis of tuberculous disease is a dangerous and unjustifiable practice. Tuberculin like any other powerful remedy, like strychnine, morphine, and curare is a dangerous drug. It may do great harm to a patient pulling up stream against a mass infection. I believe its common, widespread use in surgical diagnosis should be discontinued.

A second question is that of operating on tuberculous lesions. This should be necessary only in neglected cases with great destruction of tissue. When performed, the operation should be regarded simply as one step in the treatment.

There is in general altogether too much operating on tuberculous bones. If the tuberculous process be arrested a corrective operation later may be most useful, but thousands of hunchbacks in the United States going about their daily work, show how well nature takes care of these lesions. The treatment designed to arrest the general tuberculous process with the sun-cure and careful bracing or splinting, gives excellent results.

Operation for cervical adenitis should be directed at the tonsils, teeth, adenoids or middle ear. The glands will take good care of themselves if relieved from a constant stream of incoming infection. The most help they need locally is to withdraw any fluid contents with a needle. The complete dissection of the cervical glands should never be necessary. If tuberculosis of the kidney be diagnosed early, it should never be necessary to operate for it, or on any other tuberculous lesion of the genito-urinary tract. In general, conservative surgery will regard tuberculous lesions as evidence of a general process. Measures will be prescribed to protect the parts from injury and *active treatment* for the general process will be begun. That is the secret of the greatest surgical success in this disease. I believe that every case operated for a tuberculous lesion *should be placed in a sanatorium* and given the benefit to be derived from the great stimulation to their processes of repair by the open air treatment.

Is it logical, am I right?

1337-49 David Whitney Bldg.

DISCUSSION.

DR. BURT R. SHURLEY, Detroit: This is one of the great problems we have with us at all times. The demonstration of its prevalence and methods necessary to eliminate tuberculosis,

and the very interesting problems connected with it on a tremendous scale such as we had to deal with in the army, has perhaps brought out some very definite, interesting scientific facts. From the fact we have this enormous material to deal with, it has led us to certain definite conclusions which I think are quite worth while and which will be of great benefit to the suppression of the disease and to the sufferers for many years to come.

In the first place, Dr. Rich has brought out the wonderfully interesting relationship between focal infection and tuberculosis. There are undoubtedly yet, after all these many years of education medically to the laity, an enormous number of cases of tuberculosis of every kind and variety that go on to later and later stages without proper prompt recognition by the medical profession or the people respecting the chance of any tuberculous lesion being present. It is certainly amazing that, after all that has been done, there can be so many advanced cases; and yet it is part of our absolute duty to bring this work more definitely within the diagnostic realm.

This relationship of focal infection has been the part undoubtedly of the most interest to us who have been trained in the old educational way of dealing with the respiratory tract rather than purely internal medicine work, and that is to perhaps appreciate somewhat the relationship of the infections of the upper air tract, the nose and the throat and the trachea and the bronchial glands, and that the deep-seated pulmonary tuberculous infection might be caused by these secondary infections in the tonsils, adenoids, etc. Again, this old, old story. It seems almost too bad to have to even speak of it, after the enormous amount of literature which has been brought out.

Yet in our army experience, we found there was very little tuberculosis in any of the recruits. Major Webb seemed to think that those who smoked cigarettes and inhaled them were practically free from tuberculosis, and the only cases that we had were those that didn't smoke. Of course, that absolutely turned things upside down from all ideas of the Anti-Cigarette League and all the things our good professors have taught us in medical college for a good many years back. Certainly there were some almost really absurd relationships, as I found it myself on inquiring. Among the soldiers, of course almost everybody smoked. It was just here and there a chap didn't smoke cigarettes and the reason was he couldn't get hold of them. Of course that is the rankest kind of heresy to talk about from all the standpoints of hygiene. Yet there is something to be given further investigation along that line; whether stimulation of the mucous membrane eliminates and drains more freely some of the lymphatic secretion on through the bronchial glands and through the lymphatic chains and made a greater circulation of the lymphatic secretion or not, remains to be worked up. But about sixty per cent. of all focal infections are tonsillar and an enormous number of people we know have tuberculosis up to the time they are 33 years old. You can change those statistics back and forth, but a great number have been infected.

Now, then, the thing we are interested in is the activity of the disease at the time. By definitely checking up this activity with our tuberculin reaction, with our complement fixation, with our X-ray—which is only an aid to diagnosis in my opinion and should not be taken as a complete and absolute and definite diagnostic procedure, as has been brought out by some of the roentgenologists. I think there is too much prominence given to the fact that we are taking just a single plate of an individual at a certain definite time, and that we can not eliminate observation, human intelligence, common sense, and a definite scientific understanding of your individual, which are really the fundamentals of successful work in tuberculosis; and unless that is looked upon in a broad way, such as Dr. Rich has brought out in his paper of considering all the different angles and all the different standpoints, it seems to me that we are liable to be run away with by some fad or fancy or somebody's idea, just as we are so frequently in the medical profession. There are those of us that can look back twenty years, can look back and laugh many a time at the things we ran away with, the things we thought were great; and after ten years, we throw that out in the alley as perfectly no good to humanity and a waste of time and thought, whereas certain good things stand their place and are well known. But it seems to me there is a place for everything in this diagnostic circle; and the laboratories should have theirs, the X-ray should have theirs, and the clinical diagnostician should also be given his and hold his long and well recognized usefulness as a physical diagnostician.

DR. J. L. CHESTER, Detroit: I think Dr. Rich is to be congratulated on bringing before this section the best modern views on the subject. We have all been attracted to the ques-

tion of focal infection. Bringing it up as he has done now, makes us all indebted to him.

When I began the study of medicine more than a quarter of a century ago, the method was to make diagnosis only when the patient was in a precarious position. There was no doubt about the diagnosis. Then, a few years afterwards, when there was a great deal of work done following the discovery—later when they began—they were a little farther and the pendulum swung the other way and they began to call all classes of patients that they saw for a time tuberculosis. If the patient showed loss of weight, showed dyspepsia, had a tuberculosis history, they were at once O. K.'d as tuberculosis. With children that was very common. That was one thing Dr. Rich did not bring out in his paper, the value of history in making the diagnosis. I know that he has paid a great deal of attention to the value of history, because I have known him to go into that very thoroughly at different times.

The difference between the X-ray man and the clinician has been largely the X-ray man has interpreted his findings, what he finds in his shadow shows definite infiltration or infection. What the clinician wants is whether there is an active process or not. Seventy per cent. of all people, nearly all plates will show a shadow, while only 20 per cent. show an active process. The doctor says, very justly perhaps, I believe he said that tuberculin was of no value. We have some places where it is of much value if used when indicated. Of course, you would not give tuberculin to every case. Before you commence giving tuberculin, every case should be carefully studied, and there should be an experiment made with each case before the initial dose is given. It seems to me that it may be summed up in this: the X-ray test, the history and a careful physical examination should all be brought in together in making the diagnosis.

The Doctor spoke of the early cases being put in a sanitarium. My trouble has been, since I have been in Detroit, over and over again I have called up Dr. Rich, "I have a patient I would like to put in the sanitarium." "The sanitariums are full." We need more sanitariums.

DR. W. H. CLIFT, Flint: I think this paper is remarkable for a number of things. In the first place, it so absolutely hit the nail on the head in regard to the relation of the X-ray finding and the clinical finding, and the fact that it thoroughly covered the whole situation it seems to me on the question of activity.

It strikes me, and I think most of you will agree with me, that as far as the treatment is concerned tuberculosis has been pretty well worked out. But the question of diagnosis is a thing that concerns everyone. After all, the whole thing simmers down to a question of activity.

As to the relations of the X-ray examination to the clinical examination, I think Dr. Rich pointed out the main fact when he said that the physical findings, corresponded with the X-ray findings. Those of us who have had an opportunity to check up large number of cases with the clinician have found that this is practically so. That where the clinician would find definite physical findings in the one, we could find in the X-ray plate shadows which corresponded to those findings. If you find localized dullness, you will find a localized shadow with the X-ray plate. After you are all through with the examination, either with the X-ray or with the physical findings, then you must place an interpretation on those findings as regards the pathology.

I think for a long while we have been disregarding in our examinations too much the underlying pathology, and have laid too much stress upon particular signs. In my own particular field—one sign that used to have a good deal of significance a few years ago was a failure of one of the diaphragmatic arches to have the same amount of excursion as the other. In other words, a retardation in the movement of the diaphragm. Now we know that has no particular relation to tuberculosis. Any acute chest infection will produce that sign. That is one of the great drawbacks to the accurate diagnosis of tuberculosis in particular, that not only the X-ray man but the clinician is inclined to pin too much faith upon one sign. The question of determining activity in an X-ray plate is a questionable affair. There are a great many roentgenologists who think they can determine the activity by the X-ray. I am dubious. I think you can determine the relative age of a lesion. For instance, if we have two lesions, one on either side, you can tell the relative age of those. One may be older than the other.

The experience we have all had recently with the acute conditions in the chest has brought about a source of error in our findings. These acute conditions all leave behind them more

or less signs in the condition of the shadows of the bronchial tree, all of which may be confused.

However, I think the most significant thing is that tuberculosis is likely to start at the apex, the lymph stream being more sluggish in the apical region, and the bacilli go against the stream, making the apices the most vulnerable point. We are likely to have that before we have involvement of the lobes. So that if we find a lesion which is very well localized, particularly in the apices, then I think the diagnosis is one of tuberculosis. On the other hand, where we find a generalized process throughout one lung or both lungs, with a history of acute pulmonary infection, influenza or bronchial pneumonia, then I think, to sum the whole matter up, there is room for a great deal of work, both from the standpoint of physical diagnosis and from the standpoint of the roentgenologist to co-ordinate the actual pathology underlying the tuberculosis with the physical findings.

I saw on the program that Dr. Vaughan would be here. It was a great disappointment to me when I learned he had not yet returned. His work on the other side was of such a nature, he could throw a good deal of light upon this.

SOME PRESENT-DAY TREATMENT OF EAR DISEASES IN THE LIGHT OF MEDICAL HISTORY.

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In the treatment of ear diseases in ancient India two things were recommended particularly—rest and the avoidance of fatigue.

Hippocrates, among other things, gives the following picture: The patient throws himself about on account of pain, has high fever and is delirious. In the beginning there is severe pain in the ear, radiating into the region of the temples, frontal bones and into the eyes. The head is full and heavy, and motion sometimes causes vomiting. On the fifth, seventh and eighth day the ear discharges and cerebral symptoms disappear. If the ear does not discharge, the retention of pus usually causes death on the seventh, ninth or eleventh day. Acute ear suppurations are either genuine or complications of peripneumonia, endemic fever or influenza, which was epidemic in the region of Corinth at the time of Hippocrates.

Treatment in ear suppuration was dietetic and local. Before perforation of the drum-membrane a light diet is recommended besides honey-water, oatmeal and diluted wine. Sponges soaked in hot water were placed on the head of the patient. The diseased ear was held over steam, or oil of almonds was instilled into the same. Sometimes blood-letting was resorted to, or counter-irritants were tried by applying irritating ointments to the shaved portion of the head. If warm poultices were not tolerated, cold were tried. So long as the ear discharged freely it was left alone; later it was syringed with warm water, sweet wine, human milk or rancid oil.

Celsus (about 35 B.C. to 45 A.D.) used in cases of inflammation of the ear, irritating ointments after the head had been shaved; he also used bleeding in strong, robust people, and cathartics in weak people. If there was severe pain he used poultices of poppy-seed, instillations, especially, however, opium. He knew that inflammation of the ear can lead to insanity and death. For discharging ears and ulcers he used vegetable and metal astringents. He removed foreign bodies with a probe. He used instillations of vinegar with a veratrum preparation for killing insects. He also advised otoplastic, and gave accurate indication for the operation of atresia of the ear canal.

Archigenes of Rome, at the time of Trajan, about 100 A.D., used a method to remove foreign bodies by gluing them to a brush. He also used tubes introduced into the ear to facilitate hearing in people suffering from hardness of hearing. He reports the harmful results of using cold water in the ear.

Scorbonius Largus removed polyps by cauterization.

Galen tells that a physician used pepper in an inflamed ear in a patient and that she was thereby almost driven to suicide. He observed that hardness of hearing and deafness can be caused by a lesion of the hearing organ itself, or of the acoustic nerve, or through a lesion of the root of the acoustic nerve in the brain. He recommends that remedies in the ear should be used warm. Galen recommends slitting and cauterization in caries of the bone. He used ear suppositories consisting of veratrum nigrum and honey, also finely shredded sponges which are shaped like a bullet and moistened with honey.

Alexander of Tralles (525-605) reports that hardness of hearing and deafness were treated by some physicians by acoustic instruments and hearing tubes, apparently inaugurating ear exercises. "Some physicians have performed the arteriotomy and then put the end of a trumpet into the ear canal and blew. Others have made noises with large bells and others have used instruments especially intended for that purpose."

Paulus of Aegina, in the middle of the Seventh Century, reports as the ultimate procedure in removing foreign bodies, if nothing else helps, a semilunar incision behind the auricle and detachment of the upper posterior part of the membranous ear.

Abul Kasim (912-1013) used cauterization as a remedy in otalgia. He applied a hot iron

in ten different spots around the ear. The Arab medicine was especially rich in instruments. There are forcepses, canulae for suction in the canal, little knives to break up swollen seeds, and ear syringes.

Guy de Chauliac, the most famous surgical writer of the fourteenth century, mentions the nasal speculum and the ear speculum. He distinguished between idiopathic ear diseases and those following diseases of other organs. He claims that the hardness of hearing which becomes better at times can be cured, but that which exists for a greater period than two years cannot be cured. He has his knowledge of adenoid vegetation from Avizenna.

Nicola Nicole (1357-1413) was one of the most able physicians. He mentions a certain Simeon who recommends, in deaf people, the use of a silver or iron tube which fits exactly into the outer ear canal, and to repeatedly produce strong suction with this tube.

Giovanni Arcolano (who died in 1484) recommends to palpate the surrounding of the suffering ear. He discriminates between suppuration of the ear and abscess of the brain, and observed changes in taste in diseases of the ear.

Giovanni Da Vigo of Genoa (born in 1460) used the ear speculum (*ad Solem speculo instrumento aure ampliata*).

John of Gadasden, Joannes Anglicus, recommends the removal of pus from the ear by suction. He also claims that this remedy is useful in tinnitus.

Bartholemeus Eustachio (1510-1574) described the form, structure and course of the Eustachian tube. He also recognized the great value of his discovery for physiology and therapy. It was not until the Eighteenth Century that this important otological discovery was made useful through the application of the catheter.

Fabricius Hildanus (1560-1634), a very famous physician, who practiced especially in Switzerland, invented an ear speculum. He also described the following interesting cases:

A girl suffered from a severe reflex neurosis for six years caused by the presence of a glass pearl in the ear. He cured her by removing the same. He also removed a polyp from the ear of a patient, a girl eight years old who objected to excision of the same, by tying it off and by treating the rest by a caustic. He described a case in which a physician pushed a cherry stone, lodged in the right meatus, still further into the same with a sharp hook and caused a suppuration. The stone was spon-

taneously expelled. The boy, twelve years old, suffered from an attack of vertigo, staggered and inclined his head to the right side. He also described an abscess which developed in a woman forty years old, behind the left ear, and which burst spontaneously. The woman died. Fabricius advised not to wait for a spontaneous rupture but to incise early.

Sylvius de le Boee (1641-1672) knew that deafness could be caused if pressure was exercised upon the acoustic nerve by a tumor or by an exudate, also by injuries to the brain and commotion of the brain.

Guichard Joseph Duverney (1648-1730), remarks that drummembrane is not absolutely necessary for hearing purposes.

The catheterization of the Eustachian tube, as Meyer says, is nothing else than a perfection of the Valsalva experiment. This experiment was known in antiquity, and Archigenes used it for the removal of foreign bodies.

In 1724 the post-master Guyot, of Versailles, used a catheter, which he introduced behind the soft palate and by the aid of which he cured his deafness.

Archibald Cleland, in 1741, presented to the Royal Society of London a catheter made of pliable silver, which he introduced through the nose.

Joannes Riolanus, Jr., (1580-1657) reports that somebody improved his hearing accidentally by pushing an ear spoon deep into the ear, tearing the drummembrane and breaking the ossicles. He also considered whether it would not be a good thing to open the mastoid in tinnitus.

In 1797-1799 Himly, of Goettingen, taught the operation on the cadaver and on living dogs.

In 1800-1801 Astley Cooper successfully perforated the drummembrane on three people who were hard of hearing.

Schwartz's merits in connection with the incision of the drummembrane are known.

The history of mastoid operation is a chapter by itself. However, mention should be made of the French surgeon, Jean Louis Petit (1674-1760) who carried out the first modern mastoid operation and described it in a modern way. Others followed. After the physician to the king of Denmark, von Berger, succumbed to a mastoid operation the operation fell into disrepute until Schwartz re-established it.

COMPARISON.

Of course we can compare only in a way the treatment of ear diseases of the present day with those of former times, because most of our knowledge of physiology and pathological anatomy has been acquired in modern times, and furthermore, because the success made possible by aseptic surgery is also a product of modern times especially in diseases of the labyrinth and in intracranial complications. Nevertheless, we learn that the ancients and those following them rendered very good service, and we must marvel, in many instances, at the correctness of their observations. For instance, even in India we learn that rest was recommended in ear trouble, and yet it is observed nowadays that, time and again, people suffering from middle ear inflammation are ordered to clinics when they should remain at home. One of our modern writers, Heine, says as follows: "The demand for rest does not allow ambulatory treatment of an acute middle ear inflammation. These patients should not be ordered, perhaps daily, to the physician's office. Hereby the chances of a quick course and one without complication are lessened. The comparison of the result in private practice and in the polyclinic proves this. I cannot recollect a case from my private practice in which I was obliged to open the mastoid provided the drummembrane was opened at the proper and early time, and provided the patient rested in bed. Of course, I admit that an opening of the mastoid once in a while may become necessary." Heine considers every move severe ear inflammation a grave disease, therefore the patient should stay in bed, even if he feels well and if he has no pain and fever.

Thus we learn that, in this respect, we have not improved upon the teachings of the ancient inhabitants of India. Bearing in mind the little that I have mentioned about the observations made by Hippocrates, are we really entitled to boast so much of our present-day knowledge, considering the long intervening space of time?

It not infrequently occurs that the neglect shown by postponing the incision of the drummembrane may lead to the dire results mentioned by Hippocrates. We should as a rule not syringe ears with a very profuse thin sero-sanguinous discharge; a similar rule was observed by Hippocrates. Not so very long ago the autopsies performed in children who died of broncho-pneumonia revealed the fact that in more cases than was supposed a **middle ear** suppuration was found. Hippocrates knew this

complication. In influenza we are familiar with the ear complication; so was Hippocrates. Blood-letting and counter-irritants were not unknown to him. We are quite proud of our plastic operations. They were known to Galen as was the operation of atresia. Unskilful attempts to remove foreign bodies are not unfamiliar to us; Fabricus Hildanus dwelt on that fact. Many people wonder that people can hear without the presence of a drummembrane; Duverney was familiar with that fact. The deafness caused by pressure on the acoustic nerve or injuries to the brain has recently been brought forward; Sylvius de le Boee knew it. In removing foreign bodies we have sometimes to resort to an incision behind the auricle and to temporary detachment along the same; Paulus of Aegina reports the same procedure. Loewenberg removed foreign bodies by gluing them to a brush; a similar method was used by Archigenes.

Some polyps at our time are removed by cautery; Scribonius Largus did the same. On the other hand, we observe that the introduction of all kinds of useless and sometimes injurious material into the ear has its counterpart in ancient history.

At the time of Asclepiades (2nd century B. C.) e. g. the ear prescriptions frequently contained irritating substances like juice of onions, pepper against pain in the ear, which remedies may have caused much damage. (Meyer.)

These few instances are selected at random from the preceding remarks which, in themselves, cover only part of the ground. While I do not wish in any way to belittle the progress which has been made in our time, a very great one indeed, we must admit the fact that not infrequently observations which have been made many hundred years ago, and rules which have been observed in times remote, have not become familiar to all physicians even now. Those who confine themselves particularly to otology and allied subjects should make it a point to aid in the dissemination and generalization of knowledge concerning their line of work. This, of course, applies to all other branches of medicine as well. It seems evident to me that lack of centralization and co-operation, lack of system and lack of method are standing in the way of still greater progress. In some places this fact has been acknowledged and recognized by the establishment of special hospitals, which are productive of good results

by virtue of centralization. Let us hope that such a plan will become more general. I might add that I am in favor of special hospitals only in connection with general hospitals respectively special departments in general hospitals. It is not only necessary that one or the other individual physician be familiar with the facts, but it is essential from a humane, from a sociological and an economic standpoint that all people should enjoy the benefit of medical knowledge accumulated in the course of the ages.

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THE PATHOLOGY OF MASTOIDITIS WITH ESPECIAL REFERENCE TO ITS CLINICAL SIGNIFICANCE.

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Acute mastoiditis is in almost all cases secondary to an acute suppurative otitis media or to an acute exacerbation of a chronic suppurative otitis media. It occurs as a common complication of the otitis media of head colds, tonsillitis, influenza and the acute exanthemata and results either from the virulence of the infection which attacks middle ear and mastoid simultaneously, or from insufficient drainage of pus from the middle ear. In the latter case it occurs when the spontaneous perforation is situated in the upper quadrants of the tympanic membrane or when paracentesis has been delayed. The tissue changes taking place within the tympanum are so closely associated with those in the mastoid that mention should be made of them in discussing the pathology of mastoiditis.

An intense hyperemia of the Eustachian tube and tympanum is soon followed by thickening and infiltration of the mucous membrane of the tympanum, which is especially marked around the tympanic orifice of the tube and in the membranous folds of the attic. These latter frequently increase in size to such an extent that they fill the attic and bulge downward into the lower half of the middle ear. The tympanic membrane takes part early in the pathological process. Pyogenic bacteria make their entrance, tissue necrosis follows and the tympanum becomes filled with pus. In the more virulent in-

fections complicating scarlet fever, caries of the ossicles and tympanic walls occurs. Perforation of the tympanic membrane generally takes place early although frequently not until grave change has taken place in the tympanum and irremediable danger has been done. Perforation occurs generally in the inferior half, but if the disease is located chiefly in the attic, it may occur in Shrapnell's membrane, in which case involvement of the mastoid is the rule.

Generally speaking the higher in the tympanic membrane the perforation occurs the more important is the pathological change in the tympanum.

Pus is probably present in the antrum and neighboring mastoid cells in every case of suppurative otitis media. This does not necessarily mean, however, infection of the bone. As long as the pus makes its escape freely into the middle ear, the disease in the mastoid may be limited to hyperemia, swelling and small celled infiltration of the antral lining membrane. When, however, the infection is of sufficient virulence, or when drainage is interfered with either by the formation of granulation tissue in the aditus, or by the presence of pus in the mastoid cells, escape from which is for anatomical reasons impossible, retention takes place, the bone is attacked and mastoiditis is set up. The cell first is the mastoid antrum, the muco-periosteal lining of which becomes densely infiltrated and suffers a loss of substance. The antrum then becomes filled with infected granulation tissue and pus.

At this stage there is found an abscess cavity occupying the deeper portion of the mastoid, which serves as the primary focus from which extension of the disease process takes place as the result of:

1. Direct extension.
2. Gravitation of pus into remote parts of the mastoid and formation of secondary foci of disease.
3. Vascular channels.

Direct extension of the disease from the antrum is the result of pressure. Pus and granulation tissue form within the antrum in amount sufficient to cause considerable pressure upon the muco-periosteum through which course the nutrient vessels of the mastoid cells. The result is destruction of these vessels, necrosis of the walls of the antrum and enlargement of the primary focus. This may continue with greater or less rapidity until the entire mastoid

process is converted into one large abscess cavity filled with pus, granulation tissue and dead bone.

Extension by gravitation occurs in pneumatic and deploetic mastoids with great facility. Communication between the cells of different parts of the mastoid is sometimes so free that the possibility of gravitation can easily be demonstrated by the probe. At the time of operation large cells at the tip or backward over the sinus are found to be extensively diseased, while the antrum is but slightly affected. The foci of disease may be separated from the primary focus by considerable distances and in some instances the bone between them is but slightly affected.

In certain temporal bones, notably in which the structure is more compact, the establishment of secondary foci of disease at a distance from the primary focus can be explained by neither of the above methods of dissemination. In such cases the areas of disease may be separated from each other by bone that is apparently perfectly healthy. Even microscopical examination may discover no trace of infection.

Extension of disease may with justice be considered to take place along the blood and lymph channels of the bone.

The changes occurring in the temporal bone, as the result of an acute infection, may, as has been said, progress to a point at which recognition of the condition is unmistakable, even to the inexperienced. On the other hand, operation may be made at a time when the blood supply of certain pneumatic areas has been cut off, but before visible change has taken place in the affected part. Bone is then uncovered which is apparently healthy, but is doomed to sequestration if permitted to remain. This fact alone has made it clear to the Otologist that he cannot expect to make accurate differentiation between healthy and diseased bone, i. e. between bone which may be allowed to remain and bone which must be removed. When added to this observation there is knowledge of the fact that in remote parts of the temporal bone may be foci of infection established through the agency of the vascular channels, he has sufficient explanation for the failure to secure satisfactory results after an apparently satisfactory operation has been performed.

Until the last few years, even in the practices of the most skillful and experienced operators, about one case of acute mastoiditis in twelve operated upon either failed to come to perfect healing or after having apparently gran-

ulated favorably from the bottom broken down after a few months and exhibited a sinus leading into the depths at the bottom of which dead bone or even a sequestrum could be demonstrated. In about 30 per cent. of the cases the trouble was found to be at the mastoid tip, removal of which was followed by permanent healing. In the remaining cases the cellular structures at the posterior root of the zygoma was found to be the seat of disease although all bone that showed evidence of infection had been removed at the time of operation.

This knowledge leads to the formulation of the rule of removing all cellular structures wherever found; this included the entire mastoid cortex, tip, posterior root of zygoma and all pneumatic cells of the mastoid process. It was feared at first that the deformity following such a complete operation would be unsightly. Experience has proven, however, that the depression behind the ear becomes much less than that after older operative measures, indeed it is quite insignificant.

In addition and more important, the operator has the satisfaction of seeing both the ear and mastoid immediately cease to discharge and, with the exception of but a fraction of one per cent., all his acute cases make complete and early recoveries.

Chronic mastoiditis is the result of an acute mastoiditis that has failed of complete resolution, or is due to the extension backward of a chronic suppurative otitis media without evidence of acute disease of the mastoid. In the first case failure to return to the normal is due to the character and extent of the pathological change in the mastoid, to continued reinfection of the ear, or to the fact that parts of the mastoid that can not be drained through the ear have become involved. In the second case the mastoid becomes involved only after the disease in the ear has become chronic, as a result of which the mastoiditis has no part in the acute inflammatory condition, but is essentially chronic from the start.

The pathological changes taking place in the tympanum and mastoid are identical in character although they differ considerably in the degree to which the various changes extend. Four different and distinct processes may be described.

1. Hypertrophy and hyperplasia of the muco-periosteal lining with conversion into chronic granulation tissue.

2. Eburnation or sclerosis.

3. Caries and necrosis.
4. Cholesteatome formation.

Hypertrophy and hyperplasia of the mucous membrane lining of the tympanum affects chiefly the membranous folds of the attic although the lining of the entire tympanum is often involved. From the attic extension backward into the antrum is merely a question of time. This hyperplastic tissue becomes infiltrated with small cells, loses its epithelium and becomes converted into chronic granulation tissue. These granulations vary greatly in size from the more minute to those large enough to appear in the external ear as polyps. This change is communicated to the lining membrane of the mastoid cells with the result that they become more or less completely filled with chronic inflammatory fibrous tissue. This tissue may persist without further change, or may be transformed into bone with complete eburnation of the mastoid process. This is the pathological condition found in many cases, the chronicity of which is determined by continued reinfection from the tympanic orifice of the Eustachian tube.

If the hyperplasia of the antral mucous membrane is sufficient to prevent the escape of pus into the middle ear, necrosis of the mucous membrane follows, exuberant granulation tissue forms, the blood supply of the walls of the antrum is cut off and caries results. By an extension of the process the mastoid becomes converted into abscess cavity filled with pus, granulation tissue and dead bone. Caries is not limited to the walls of the mastoid cells. The walls of the mastoid process itself are frequently destroyed. Extension takes place upward into the middle cerebral fossa, backward into the lateral sinus and posterior cerebral fossa, inward through the inner tympanic or antral wall into the labyrinth, or downward into the jugular bulb and the neck. It occasionally happens as caries progresses, that the blood supply of large portions of the temporal bone is cut off with the resulting sequestrum formation. In this way the anterior mastoid wall, the external attic wall, the mastoid tip, and even the entire labyrinth become loosened and converted into foreign bodies. These two pathological processes are almost always associated, in which case it generally happens that caries is most marked in the tympanum and in the neighborhood of the antrum, while sclerosis is most marked in the more superficial areas. The result is that the deeper parts are converted into an abscess cavity, the purulent contents of which

is in intimate contact with the brain, while the superficial parts form a wall of dense ivory like bone which renders perforation and escape of pus externally impossible.

The formation of cholesteatome during the course of a chronic mastoiditis is of frequent occurrence. It results from the extension backward of a similar process in the tympanum after the chronicity of the suppurative otitis media has become firmly established, the cellular elements of the cutaneous lining of the external auditory canal take on an active proliferation with a resulting ingrowth of epidermis through the patent perforation in the tympanic membrane. The same proliferation takes place, to a limited extent, in the mucous membrane of the tympanum. The epidermis thus formed invests firmly the walls of the tympanum and grow into the most minute pneumatic cells and Harverscan canals. If the suppurative process is of low grade and if no caries is present, epidermatization may stop the discharge and line the tympanum with a dense steel gray membrane. If, however, the discharge is profuse, or if caries exists, proliferation and desquamation are very rapid and the tympanum becomes filled with a peculiarly foul smelling discharge known as cholesteatome. The mastoid becomes involved by the extension backward of this epidermatizing process. The first change noted is in the antrum, the walls of which become lined with the newly formed membrane. If no obstruction to the free escape of the discharge takes place, the condition may be present for years without further extension of the disease or occurrence of symptoms. If partial obstruction occurs the discharge collects under pressure sufficient to destroy the walls of the antrum and neighboring cells. In this way the mastoid is occasionally converted into one cell lined by pearl gray membrane and filled with cholesteatome. Under certain conditions this cholesteatome, instead of appearing as cheesy lumps, is cast off uniformly in layers so as to form lamellar tumors (cholesteatomata) having an appearance not unlike that of an onion and composed of layer upon layer of desquamating epidermis.

When associated with caries, the pressure of the cholesteatome is frequently sufficient to destroy the walls of the mastoid and to allow infection to reach the internal ear and middle and posterior cerebral fossas. Cholesteatome is occasionally found upward in the zygoma or backward in the occipital, separated from the primary focus by apparently healthy bone.

Of the above pathological changes, caries and sclerosis are almost always associated, while cholesteatome occurs with great frequency. The amount of caries or sclerosis depends upon the virulence of the infection, upon the duration of the disease, and the character of the mastoid. Thus the amount of caries is greater in cases of marked virulence, or of protracted course occurring in large thin walled pneumatic celled mastoid, while marked sclerosis is to be met with in most cases of protracted course occurring in small celled or deploetic mastoids. The relative proportions of these changes varies within the widest limits. At the time of operation one case shows the mastoid to have been converted into thin walled abscess cavity filled with pus and dead bone or cholesteatome. Another shows the entire mastoid sclerosed and as hard as ivory with the antrum abnormally small. In the majority of cases, there is a moderate amount of superficial sclerosis, while the deeper parts contain pus and cholesteatome. In one series of cases published by the writer:

1. Marked Sclerosis was present in 52%
2. Cholesteatome was present in 79%
3. Meningitis was present in 71.2%
4. Adenoids were or had been present in.. 75%
5. Disease of childhood had been present in 75%
6. Facial paralysis present before operation 11%
7. Jaw had been entered in 4%
8. Labyrinth had been entered in 15%
9. Dura had been uncovered in 25%
10. Perforation through some wall 37%

In estimating the clinical significance of chronic mastoiditis one must take into consideration the surgical relationship of the mastoid to the structures; i. e., the brain and the vascular channels of the dura, and must realize that 75 per cent. of all brain abscesses and the majority of all cases of suppurative meningitis are of otitic origin. Inasmuch as the extent of the pathological change can not be determined before operation and as the brain, dura and sinuses can be involved without the causation of symptoms, the presence of a chronically discharging ear can not be regarded with composure by even the most optimistic of observers. The presence of this focus of suppuration is responsible for many a case of lowered vitality and may therefore be indirectly the cause of many diseases with which it apparently has no connection.

The chief reason, I believe, why practitioners have regarded chronic suppurative otitis media with indifference is that the majority of cases with which they have come in contact have resisted treatment either operative or otherwise.

This is due to ignorance of the location and character of the pathological changes within the mastoid and also those measures by which a cure can be effected. Physicians have become weary of irrigating and treating the middle ear through the canal without result and have been dismayed at seeing recurrence of the disease after thorough curettage of the mastoid. When one considers, however, that the attic of the middle ear is invariably involved and that this region is not reached by the ordinary mastoid operation and also that caries and cholesteatome formation invade the most minute Haversian system of the temporal bone, he sees two good reasons for his failures. Study of the spontaneous cures sometimes affected by nature in even the most extensive cases has made clear the operative procedure by which success may be attained. We not infrequently see patients who, in previous years, have suffered from a chronic suppurative otitis, and whose ears have ceased to discharge. In a fair percent of these cases the reason for the cessation of discharge is plain. Caries has destroyed the external wall of the attic and the inner end of the posterior wall of the auditory canal. This has thrown the external auditory canal, the tympanum and the mastoid into one irregular cavity, the walls of which have become lined with epidermis by extension inwards of the skin of the external canal. This is nature's radical operation and is the condition which the operator brings about by the radical mastoid operation; that is, a single cavity with smooth walls secured by throwing the tympanum, antrum, mastoid and canal together by removing the external attic wall, the posterior and superior canal walls and the entire mastoid process. By this method the entire diseased bone is removed and a satisfactory approach to the brain, sinuses and labyrinth afforded should the necessity for attacking them arise. Although this method renders possible the exposure of all diseased areas, it can not be expected that it or any other procedure will permit the operator to eradicate the microscopical bits of carious bones and cholesteatome that have invaded the minute pneumatic spaces and Haversian canals that are met with in the deepest parts of the temporal bone. It is the cholesteatome that is the most difficult to eradicate. No matter how great pains have been taken nor how extensive the operation, the surgeon must recognize the possibility of infection in the depths of the wound during healing by the minute bits of cholesteatome forced out of the Haversian canals. To overcome this re-infection

tion, it has been necessary to maintain the operative field open to observation and free of granulation tissue until epidermization of the mastoid cavity has become complete. By means of a plastic operation upon the soft tissues of the posterior wall of the external auditory canal, the mastoid cavity can be kept under perfect observation until healthy skin can grow in from the edges of the canal, replace the cholesteatoma and cover the cavity with steel gray epidermis. When this has taken place, the patient may be considered well. The final result then is a cavity hidden from view, composed of external auditory canal, tympanum and mastoid, covered with firm epidermis.

If, as a result of the operation, we can look forward, safe guarding the patient's life and causing cessation of the discharge, and that without destroying that degree of hearing which the disease has left him, certainly these cases of chronic suppurative otitis are worthy of operative interference.

DISCUSSION OF CANFIELD AND AMBERG'S PAPERS.

DR. HAROLD WILSON, Detroit: I did not hear the first paper, but I am quite of the opinion expressed by Dr. Amberg, that we are too satisfied with our own attainments, and too apt to consider them our own accomplishments. Something like one thousand years ago the prognosis in middle ear infections was about as it is today, and 1500 years ago the treatment of chronic defects was not essentially different. Although we have progressed in our knowledge of oto-stimulation, yet we definitely associate the pathology with the treatment. To my mind the pathology is very much like many other things, unless it has what is called a pragmatic value, it is a matter of ordinary importance. I believe our prognosis has been a matter of small advances—almost infinitesimal accretions from generation to generation and from individual to individual. It gives us some comfort, perhaps, in one sense, that we have reached the age, professionally speaking, when we can look back upon our careers and and think we have added anything worth while to the practice of medicine; but I think if we were more familiar with the history of medicine we would think less of our own accomplishments.

DR. ALBERT E. BERNSTEIN, Detroit: I was especially delighted with Doctor Amberg's paper. Andre Perez was one of the first to do a real mastoid operation. He had seen several operations done in Italy, and when Louis, the son of Catharine de Medici, who was married to Marie Sturat, came down with an acute mastoid, Perez wanted to operate, but was prevented by the Catholic Church and by political machinations. I believe afterwards Perez did several operations of this kind.

With reference to one feature of Dr. Canfield's paper—he spoke of these isolated areas of cholesteomata. I am certain a great deal of our failure or success in the radical operation may be traced to that. I have in mind an instance right now—a man on whom I did a radical mastoid in August. He got along fairly well, but shortly afterwards he complained of a pain over the ear, and the X-ray showed a small area of cholesteomata which we evacuated, and he got well. He still complained, and we operated the third time and found another area. He got along all right, and then later went up to Ann Arbor and was operated there, and a few weeks ago he turned up at my office again, still suffering. These things show how careful one should be about condemning another operation, that may have been done very carefully, and still something left behind.

DR. R. S. GOUX, Detroit: There is one factor in the care of these cases that I think should be mentioned at this time,

and that is the use of vaccines. I started to use vaccines on myself. I had had a tonsillitis, and incidentally an infection of the kidney with a pronounced case of nephritis, and was in bed a good many weeks. I made a perfect recovery, but I do not think my recovery was perfect until I began to use these vaccines. I had used them before, at first very moderately. Two or three times I stopped because I would get results I could not understand. I would use vaccines in some of the ear cases—some would get well and some would not, and suddenly some would give very bad reactions. It led me to the conclusion that the vaccine treatment of a good many of these cases is a very important thing. I do not believe we know very much about the use of vaccines, but I think in twenty-five years from now we will know a lot about them, and in twenty-five years from now I think we will find that in a great many cases instead of giving people so much treatment internally we will give them vaccines. We will know more about what we are doing. It seems to me that the most encouraging thing in the treatment of these cases of chronic discharge from the middle ear has been the use of vaccines. I have had cases where I had treated them in the regular way and practically had no results, and finally decided I would do an operation; but before doing that I tried a little vaccine, and have been very much surprised with the way some of these cases were arrested in response to the vaccine treatment. It is a form of treatment that you have to study to find out how you are going to use the vaccine—find out what the patient's resistance will be. All these things I think eventually will be cleared up. I think there will be a laboratory way of finding out just what we can do with vaccines. I think we are in the beginning of it, and probably a great many of you will do as I have done. I have finally come back to the use of vaccines, and the more I use them the more I am inclined to use them.

DR. EMIL AMBERG, Detroit: We have all enjoyed the classical presentation of Dr. Canfield's paper. He spoke of the thickening of the drum membrane of the middle ear. It has been shown by Bezold that this thickening is enormous, and it has also been shown that the early incision of the drum membrane does away to some extent with this thickening.

The doctor touched upon a very interesting point concerning the spreading of the disease beyond apparently healthy bone. This is a great trouble we have to contend with in mastoid infection. If the disease would spread by continuation only it would be a very easy matter to cure mastoid infections. We have some help in detecting these detached places of infection by the aid of the X-ray.

As far as the complete mastoid operation is concerned, one should be a little critical. Of course the main factor is, as Schwartze once told me, to remove all diseased bone. I once visited the old gentleman in Halle. He was very abrupt, and young as I was I did not take kindly to his manner. He asked me, "Did you come to Halle to see the clinic or to see me?" I answered that I came to Halle to see him and to see the clinic. He was very nice after that, and invited me to come the next Monday to see Doctor R—— do a mastoid operation in which he would remove all the diseased bone—that that was the crux of the situation, to remove all of the diseased bone. It remains for us to find out where the diseased bone is. If, for instance, we have an abscessed cavity, an empyema, the origin of which we can explain very well, taking into consideration also the clinical symptoms before the operation and perhaps the X-ray picture—that is one class of case. And then we have as a rule simply to drain that empyema and the patient is cured.

One point should be emphasized, and that is the character of the odor of the discharge. Of course we know that sometimes there may be an offensive discharge that clears up after cleaning the ears—patients are perhaps negligent and allow an accumulation of pus to remain in the ear. But if we have a chronic mastoiditis we will have an offensive odor, which if it does not improve after one or two treatments, should warn us that there is something behind it. I had a case the other day—the boy's mother said his ear had been running since he was a little child. He is now ten years old. He had an osteo-cholesteatoma of the middle bone, and at operation we found the lateral sinus exposed at least one-sixth inch. We did not expose the lateral sinus—the suppuration had done that. This boy perhaps in the course of six months or a year might have had either an extra dural abscess in the posterior fossa, or might have suffered from a sinus thrombosis.

Concerning the meningitis, there are a great many cases of

meningitis which do not come from the ear—not all cases can be traced to middle ear suppuration. We have tubercular meningitis, we have pneumococcal meningitis, and it has been shown in the literature that the ear may become involved secondarily—that we may have the meningitis first and the ear trouble secondarily. This of course should not throw us off our guard in considering meningitis as a complication of middle ear disease.

So far as the healing of the radical mastoid operation is concerned, sometimes we have to be satisfied if we have healing by epidermization of the lower tympanic cavity. This is nice, but if we have mucous healing we should be satisfied, too.

I would like to take issue to some extent with my friend, Dr. Goux, concerning vaccines. Perhaps I was a little frightened. I had a patient in which the subjective symptoms were improved by vaccines, but the objective did not tally with the subjective. This is a point that is to be taken into consideration, and until the time comes when this question can be illuminated I will not be as optimistic as Doctor Goux.

DR. B. N. COLVER, Battle Creek: I am interested in Dr. Canfield's point in regard to the removal of all the diseased bone, and also in Doctor Amberg's remarks. I would be very glad to have Doctor Canfield go further with this anatomical operation in closing.

He mentioned particularly the deep cells that might be left in the roof of the zygoma. There are two other areas I have seen left where the cholesteomata originated. One is the group of cells between the ——— and the lateral sinus posterior to the floor of the fossa; the other is the portion of the sigmoid sinus between the trigastric fossa and the sigmoid, where the cells continue posteriorly some little distance deeper than the superficial group of pneumatic cells.

DR. C. H. BAKER, Bay City: I think Doctor Amberg has taken a very pessimistic view of the situation as regards the progress of medicine in our specialty, the ear. When you stop to think of conditions in the days of Hippocrates and of Perez, and how few Hippocrates and Perez there were, and how few ever found the lesions there were, then look over the field now, and see the great development there has been and what a wide field is being covered—I think the prospects for the next century are certainly very favorable for an advancement which will put in the shade everything done before.

In regard to the cases of the type of which Doctor Bernstein spoke, where he found cholesteomata developing again and again in new areas and where he was obliged to operate repeatedly, I have in one or two instances succeeded by a very simple procedure in keeping them under control and curing them. One was the application of a very dilute solution of iodine in alcohol. I gave it to the patient for his own use and let him apply it with a pledget of cotton on a probe. That has controlled the cholesteomata in a number of my cases or prevented its development.

In regard to Doctor Goux's experience with vaccines, mine is the same—sometimes you get brilliant results and you think you have the right thing, and the next case, which looks exactly identical, you do not get any result whatever, or an adverse result. I think one difficulty is that most of us have not the time or the facilities for the cultural investigation which is necessary. In other words, we do not make blood tests and see what the resistance is, or the fixation tests, or the white corpuscles, or what is still more important in a good many cases, to see whether the blood is the carrier of the germs of infection. If we could make these examinations in all of our cases I do not think it would take very long to clear up the vaccine question.

DR. MYRON METZENBAUM, Cleveland, Ohio: I have certainly enjoyed this classical presentation of Doctor Canfield. I hoped, on the subject of the pathology of mastoiditis, he would have referred to his own inflexible rule to operate a mastoid early so as to prevent this gross pathology which the paper deals with. About twenty-five years ago, when appendectomies was first made known to the general surgeon, and for ten years thereafter, the great debate was—when to operate. It varied from the minute you make the diagnosis to the interim of attack and later when an abscess forms, until today I believe the consensus of surgical opinion is to operate an appendicitis as early as the diagnosis can be established. I think at Camp Greenleaf, under the direction of Colonel Seale Harris, the rule was that every soldier should have his mastoid opened if the ear did not show marked improvement from a bacteriological standpoint as well as clinically, in six to ten days. I think the results as to later complications were very good.

The prevention of the pathology is probably far more important than the cure of it. I do not believe the otologists, at least in this country, have come to as decisive opinions in relation to when to operate a mastoid case as the general surgeon in regard to the operation for appendicitis. Nowadays, with the aid of the stereoscopic X-ray pictures of both sides of the mastoid, which enables you to compare their relative density, you get an insight into the condition of the mastoid that you could not have otherwise, and in a picture which shows the one side cloudy, even if it is apparent on the third to sixth day, it seems needless to wait to see if the ear will get well. It might get well from a clinical standpoint for the time being, but there is more likely to be some functional disturbance of the auricles of the ear if the case is not operated. At least in our city there seems to be a rule that if the patient shows no improvement from the first to the tenth day, he is considered a subject for operation. If he does not improve very materially within three weeks, he surely should be operated, and no patient should go longer than six weeks if you know what the condition of the discharge is. I think the experience of most men is that if the operation is performed relatively early there is generally better hearing than if the operation is postponed. The danger of other complications arising from the ear that continues to discharge would be minimized by early operation, but I would like to throw a lot of shrapnel into the meeting when this is finished by discussing the question of when to operate a mastoid.

DR. FERRIS N. SMITH, Grand Rapids: I have nothing to say about Doctor Canfield's paper, except to commend it as a very finished presentation of the subject of pathology.

In regard to Doctor Amberg's paper, I think we can sum up the whole thing by saying that the large number of procedures which are used in common practice for the care of a suppurating otitis is evidence sufficient of the scant appreciation we have of the condition going on in the ear and the proper treatment for it. If there is any condition in medicine for which there is advocated a large number of treatments or preventive procedures, it is generally a condition about which we know little or have a poor conception concerning. It does seem to me if ear abscesses were regarded as abscesses in other parts of the body, it would be more simple. The general surgeon when he opens an abscess does not syringe it with every possible concoction he can lay his hands on; he opens the abscess freely enough to drain properly, drains it and expects it to heal in the course of time. I think the average middle ear which is opened at the proper time and treated as abscesses in the soft parts of the body, will heal all right. Of course an abscess in the middle ear is not quite analogous, because it is in a box-like cavity. I do not want to open up the subject of the proper management of the ear at the stage when you get a serous discharge or the stage when you get a purulent discharge, because that has been thrashed out and you would not care to hear it. So far as abscesses in a bony cavity are concerned, the surgical practice is different. Your general surgeon in dealing with abscesses of the long bone opens them up, cleans them out, and expects them to heal. That is what happens in a case of simple mastoid, and if the cavity is thoroughly cleaned out and the wound left so that the soft parts can come in contact with the bony surface, you may expect healing. I do not think there is anything very weird about it. I think it is foolish to use any kind of irritating antiseptics in the middle ear, and that many of the cases which go to mastoid operation are forced there by the specialist who puts these antiseptics in the middle ear.

DR. R. S. GOUX: I want to correct the impression that I advocate the use of vaccines in all cases. If you have a case of necrosis, I do not think vaccines will cure these cases.

DR. R. B. CANFIELD, Ann Arbor: I want to agree with the conclusions that Doctor Amberg has reached in his essay. It seems to me we have learned very little since the time of Esculapius. We have learned many details and a good deal about the pathology, but we have not been able to get this across to our students or to the profession. We have not taught the general practitioner much, if anything, of the treatment of suppurative diseases of the ear. I am amazed and chagrined to see my own students send me back cases in bad condition which they could easily have taken care of themselves in the early phase and which they should have recognized. They have passed their examinations and gone out into the practice of medicine without knowing much about it, or at least they do not show it. I think if we should disseminate through the profession the knowledge of ear disease that Hippocrates had, we would do a great deal.

The doctor made a very good point when he spoke of the necessity of rest. If we had taught the general practitioner to put the case of earache to bed, we would have taught him a great deal. If we had but one method of treatment to use in acute ear trouble, I would say rest in bed should be that one. Of course drainage goes without saying, but rest in bed I really believe in acute inflammatory conditions of the middle ear, before perforation, is more useful than any other one thing. If all these people were put to bed and kept quiet, fewer would go to mastoid operation than now, when after their ears are opened they are allowed to move around.

So many topics aside from those mentioned in these two papers have been discussed that I take advantage of this opportunity in closing the discussion. I would like to take issue with Doctor Amberg on the matter of the X-ray. I do not know whether I can get my stand on the X-ray across to you or not. I am just as enthusiastic a supporter of the X-ray as anyone, but I depreciate the fact that patients are sent to the X-ray laboratory without having been carefully examined by the clinician, and the diagnosis left to the radiographer and his statement taken as being the last word on the pathological condition of the patient. I believe that the well-trained otologist ought not to find it necessary to have recourse to the X-ray in making a diagnosis of mastoid disease—either as to whether it is present, as to its extent, or the indications for treatment. We have so repeatedly seen the stereoscopic picture of the mastoid lead men astray, that personally I do not care about the X-ray report. I am not egotistical about it, but I do feel that no radiographer can tell me very much about the pathological condition of the mastoid in suppurative disease. We have been led astray by it; we have been told that it was healthy when it was filled with pus; we have been told the ear was normal when it was discharging, and anyhow, the X-ray plate is simply a record of the density of the bone, as to whether it transmits light readily or not. It is convenient often to tell us what pathological changes are taking place, but not honestly and accurately what is there. So I am not strong for the X-ray examination in mastoid disease. Of course, the difficulties of the radiographer are perfectly plain to all of us, and the different densities in the same process are clear to us. But let us go the ancient one better by teaching our students what everybody ought to know about suppurative otitis media, by making careful clinical examinations and learning ourselves what is going on in the bone and not let somebody else tell us about it, and finally, by using good common sense in the care of these people.

I do not know just what Doctor Colver meant by asking me to discuss the anatomical operation, but I believe it is almost always quite possible to eradicate the diseased bone in a mastoid if we destroy and remove all the pneumatic structure which is accessible. If at the time the mastoid is excavated—and this is done thoroughly—and extension to the neighboring structures has not taken place, then I think it will not take place. I make an effort in all mastoid surgery to remove all the pneumatic structure, and I am especially careful if the bone happens to be luetic in character. If it is it transmits infection more easily and in such mastoids one finds many small vascular channels connecting the cranial sinuses. So it is worth while to be very meticulous in the toilet of your operation.

DR. EMIL AMBERG, Detroit: In regard to the matter of rest—do not think the general surgeon with a diagnosis of appendicitis lets the patient walk around—he puts him to bed, and we know that the peritoneum is very much more resistant to the infections than the meninges are. I am glad that Doctor Canfield mentioned the X-ray examination of the mastoid. Several years ago I read a paper in which I drew nine conclusions about the X-ray, and I am glad to say they have held. The points are these:

In a chronic middle ear suppuration or mastoid the X-ray plate is of little value because we have a dense bone and we cannot see in the X-ray plate what is going on around or behind the dense bone. In acute middle ear suppuration, without mastoid complications, the value is sometimes doubtful, too. Of course the X-ray man distinguishes first, second and third degrees, but the rule should be to consider first the clinical symptoms and then the X-ray plate. If the clinical symptoms speak for an operation and the X-ray does not speak for it, I operate. If the clinical symptoms do not speak for an operation and the X-ray plate—in a case of acute mastoiditis or a confirmed discharging ear—fails to show distinct changes of a certain type, then I go in. Doctor Densch of New York, who has had a great deal of experience, cites a number of cases in which the X-ray was of material benefit to him in locating the diseased area which he would otherwise have overlooked. I think these were cases in the New York Eye and Ear Infirmary.

There is one point, and that is that in reading the mastoid plates you have to read your own plates. You should always work with the same Roentgenologist. I do not rely very much on the judgment of the Roentgenologist as far as the X-ray plate is concerned, because in my subconscious mind I always have the clinical symptoms to correlate with the X-ray picture. But I think Doctor Canfield's remarks should be listened to very carefully, and I want to emphasize them for one reason—that you should not send a patient to the Roentgenologist and then rely on the reading of this specialist, because he has not the knowledge of the case that you have. We have to take the whole picture of the mastoid into consideration, and the X-ray is only one part of it.

Doctor Baker raised the question of whose work shall endure—what mountain tops, so to speak, shall shine in the future. I think we will have to wait some fifteen hundred years, when somebody will be reading a paper similar to these, and I am sure Doctor Baker's name will be mentioned.

DR. HAROLD WILSON: I am indebted to you for this honor, for which I am deeply grateful. It was thrust upon me in my absence, and that is the only excuse I can make.

If an address from the incoming Chairman is in order, I would like to raise the question of the X-ray and say that I have formulated my opinion, too. In chronic mastoid I agree with Doctor Amberg that it is of very little if any importance. In acute mastoid I would make two divisions—children and adults; then young children with chronic mastoids, which is in the same category as adults—it is not necessary. So under these three heads I think we can say we have included all of the subject of the X-ray.

I think I can explain the value of vaccines. You know in certain Church ceremonies there is a laying on of hands, and the virtue is in who does it. If I were to baptize your children they would not go to Heaven; but if I were ordained and sprinkled water on their heads that water would have a peculiar quality which otherwise it would not have. In other words, those who are ordained to administer vaccines get results. Unfortunately, I have never been ordained.

CANCER OF THE LIP AND TONGUE.

C. D. BROOKS, M.D.

DETROIT, MICH.

Cancer of the lip and tongue are among the most serious of malignant diseases. The mortality of cancer of the tongue is more than 50 per cent., if treatment is not instituted early and thoroughly, of the lip, between 50 and 60 per cent., unless operation is done before the glands are palpable.

In cancer of the oesophagus and stomach, where the means of making the diagnosis is more or less indirect, depending upon the clinical history, X-ray examination and special examination, etc., we are able to make the diagnosis early and advise the proper treatment for such a condition, yet it is a common thing for a Surgeon to see a patient, with a carcinoma of the stomach, who has had symptoms, referable to it for a much shorter time than the usual case, who presents himself with cancer of the tongue or lip. These cancers can constantly be seen by the patient and his friends and yet it is not an uncommon thing, in fact, unusual that the surgeon sees such cases until they have reached the ulcerative stage and when such is the case, the growth usually is very extensive, with metastatic infection present and infrequently, we also have super-

imposed on the cancer tissue, a secondary infection due to the pyo-genic organisms.

If the medical attendant could always remember, that more than 75 per cent. of cases of cancer of the tongue and lip die a cancer death, if operation is not done before the glands are palpable, if he could see some of the last stages of these patients, who suffer more than from any other malignant disease, he would not be apt to treat it with caustics, cauterization, etc.

It is well known that procrastination has a much higher mortality than carcinoma and nowhere else among the malignant diseases of the body, is the mortality higher, or suffering greater, than the unfortunate person, having a cancer of the tongue or lip.

ETIOLOGY.

As in carcinoma, elsewhere, we find many cases, which are apparently due to repeated and chronic inflammation, and where more than anywhere else we believe that these can follow upon a chronic irritation. The fact is, that cancer in men and women is ten to one, proving beyond the question of a doubt, that the use of tobacco, would seem to have a large part in this increased cancer in men. The irritation of pipes is a predisposing cause of lip cancer. Teeth which cause oral infection are a very important factor in causing cancer, and men are much more careless in the care of their teeth than women, both by causing irritation and the chronic infection. Prophylaxis, must be instituted early and thoroughly and if all decayed roots are removed, or proper treatment given, by competent dentists, many cancers would not occur.

We must not forget, that a lesion of the tongue or lip which does not heal in two or three weeks, by simple remedies and by removing the cause, when such can be ascertained, is a potential cancer. We would need to differentiate syphilitic sores, tuberculosis and actinomycosis. The diagnosis in actinomycosis, is made by examination of a smear or tissue, which shows the ray fungus, this is not common, either on the lip or the tongue, but is usually found in the jaw. Tubercular lesions are as a rule not common after the age of forty, and are usually secondary to tuberculosis elsewhere. They do not tend to ulcerate as early as in carcinoma and also are rarely found on the tongue.

In syphilitic sores, the pain and irritation are not as great as in cancer, and in primary sores, the result of kissing, the ulcer is found on the tip of the tongue and lip seldom on the lateral margin. The clinical history, the ap-

pearance, and the blood examination, dark field examination, eliminate the syphilitic lesions and in cases where these tests are negative, a thirty day course of anti-syphilitic treatment would serve to eliminate these diseases. We must bear in mind that a carcinoma can, and often is ingrafted upon the scar or ulceration from a syphilitic sore.

Syphilitic lesions of the tongue are usually tertiary, except those primary sores on the tip as mentioned above. The syphilitic ulcer is also less likely to bleed than the cancerous. One of the prominent pre-cancerous conditions is leucoplokia. We would expect a lesion on the lip or tongue to be cancer, if it is unhealed after two or three weeks of simple treatment and after the elimination of the above diseases. In order to cure these patients, by proper treatment, it must be instituted early.

CANCER OF THE TONGUE.

We seldom find cancer of the tongue until after the age of fifty years, but there are of course, exceptions to this rule. The writer, has not seen any cases below the age of 40, but several cases have been reported, both of the lip and tongue, below the age of twenty. Metastatic infection is not as common in carcinoma of the tongue, as in carcinoma of the lip, one reason for this is, as a rule, patients die before such metastasis takes place, and when such metastasis does take place it is usually the adjacent lymph nodes, which are affected. In cases ending fatally, there is usually great secondary infection of neighboring lymphatic glands, so that the patient, is often unable to swallow. Added to this usually there is a secondary infection with pyo-genic organisms with a breaking down of the lymphatic glands with accompanying foul smelling discharge, which makes the case very disagreeable to the sufferer and the attendants. When such secondary infection takes place, there is usually a rapid cachexia and the patient soon succumbs.

It is well to remember, that chronic ulcer of the lip or tongue is always cancer until proved otherwise, and the only hope, the patient has, is that diagnosis be made early and the proper treatment instituted. For one to wait for the enlargement of the lymphatic glands is to invite the highest mortality as it is only in the early stage that these growths can be treated with any hope of success, and if they are allowed to go until ulceration takes place, the high mortality should be placed upon whoever is to blame and this is not always the patient.

In his estimation, of the growth of cancer, "Handley" believes that the cells spread equally in all directions, though through the same tissue, that they do not cross into a different tissue, as in muscle. As far as we are able to believe, Handley's assertion remains correct. "Murphy," has shown the marked similarity between infection and carcinoma, as an example, tuberculosis, which is at first local, destroys life, as in carcinoma, by multiplication of its cells, usually the local center of necrosis, like carcinoma, it is transmitted to the neighboring lymphatic glands and may be transmitted by the blood stream to other portions of the body and it destroys life. In malignant diseases, the metastasized cells, always reproduce the pattern of the primary focus.

If we have a squamous celled carcinoma of the lip and a metastatic cancer appear in the femur, it would always be a squamous celled carcinoma. In infection, on the other hand, it is the cells of the tissue in which the infection lodges that are active.

If you have tuberculosis of the lip, and get tuberculosis of the femur, it would not be epithelioma cells, but osseous cells, at the point of infection. If the medical profession would always keep in mind that the diagnosis, must be made early, in order that the patient may be saved, and unless diagnosis is made early, the patient will die, he will be less apt to treat these cases with indifference. Time should not be allowed to be lost, by the treatment with caustics and salves and inefficient X-Ray treatments or incomplete surgical proceedings, but radical treatment must follow an early diagnosis, if a cure is to be expected.

Treatment.—It is the belief of the writer that sections should never be taken for examination, unless the surgeon is prepared to immediately perform an operation. Should such be contemplated, the operation should be performed early, before the ulcerative stage.

The surgeon must not forget, especially in carcinoma of the lip, that although the adjacent lymphatic glands are not palpable, yet upon dissection, he is surprised to find glands as large as "Hazel nuts," which are the site of metastatic infection. At the present time it is doubtful, if operation should be instituted, without a thorough course of pre-operative X-Ray treatments. It has been the practice of the writer for more than three years to have pre-operative X-Ray treatment given in all cases of carcinoma, except perhaps, carcinoma of the stomach. Even here, we advise when-

ever possible, that this be done. In many cases, we believe, that by giving a course of treatment from four to ten, given at intervals of about two weeks, that many cases of apparently in-operable carcinoma, will become operable. Whenever a case presents itself care must be given to get the patient in the best possible condition, by oral hygiene, with the development of the X-Ray, technique, is quite as likely that a thorough course of pre-operative X-ray technique will be more effective with local excision, in carcinoma of the lip, as excision and removal of the glands without pre-operative treatment. In every case it will be better to defer operation, until at least two weeks after the last X-Ray treatment. We advise a radical excision of glands in every epithelioma of the lip and do this as the first step of the operation, doing the local by excision as the 2nd step but at time of immediate operation. It will be well to follow the operation by future X-Ray treatments, beginning on the following day and at intervals of two weeks for several months. I believe better results will be obtained when such cases are followed up for three years, allowing several months between the course of treatment. In cancer of the tongue, without palpable glandular enlargement, and when the growth is not extensive, it is quite as likely that local excision be performed thoroughly with a course of preparation and post-operative treatment, will be followed with as good results as removal of the lateral half or all of the tongue.

When these cases are ulcerative and glandular enlargement has taken place, better results will follow the use of radium and X-ray, than from any operation. In growths on the soft palate, tonsil which are often sarcomatous, better results will be obtained by the use of radium than from operation, in fact such growths appear to be made worse by operation. Cauterization with heat may be used prior to radiation, but it is doubtful value unless done very thoroughly.

It is only by education of the laity, and arousing of the sometime, indifference of the medical profession, and the thorough and radical treatment of all the agents at our command that we can expect to cure patients affected with a disease with such a high mortality.

The proper use of radium and the X-ray, will be found valuable adjuncts in treatment, both pre-operative and post-operative.

641 David Whitney Bldg.

HYSTERECTOMY FOR FIBROID.

HERBERT W. HEWITT, M.D.

DETROIT, MICH.

HISTORICAL.

Heath, in 1843, performed the first abdominal hysterectomy for fibroids. He attempted to ligature the uterine pedicle enmasse, but was unsuccessful, his patient dying from hemorrhage seventeen hours after operation. In 1844, Charles Clay removed a uterus weighing 20 pounds, together with two ovarian tumors weighing twelve pounds. His patient lived for fifteen days, cause of death not stated. In 1846, John Ballinger attempted the separate ligature of arteries during an abdominal hysterectomy. His patient died of peritonitis on the fifth day. Burnham, in 1853, performed the first successful hysterectomy. He ligatured the arteries separately. Kimball, in this same year, also successfully removed the uterus. In 1863, Clay performed his first successful hysterectomy. He ligatured the broad ligaments separately and then placed a suture consisting of three strands of indian hemp on the cervix, immediately above the plane of the os and then divided the cervix. In 1863, Koeberle brought out the "serre-noeud:" in this technic the cervix was transfixd by two threads of twisted iron, the loops of the threads were divided and each double thread was then made to surround one-half of the cervix and the broad ligament on one side, the whole was tightened by means of a "serre-noeud" especially devised for the purpose, then the uterus was amputated. The ends of the threads were brought out through the lower angle of the incision and the whole came away together with the necrotic portion of the stump, about the tenth day. In 1869, Pean introduced the method of fixing the cervical stump in the lower angle of the wound, thus making the stump extraperitoneal. In 1876, Kleberg applied an elastic ligature around the cervix. In 1878, Mikulicz, Schroder and Spencer Wells, independently used the ligature for separate vessels, whilst Spencer Wells and Schroder attempted to cover the stump with peritoneum. In 1887, Eastman recommended the fashioning of anterior and posterior peritoneal flaps for the purpose of covering the cervical stump.

In 1890, Milton performed one of the first of the modern abdominal hysterectomies. He described his technic as follows: Ligature of the broad ligaments, transverse division of the

peritoneum $1\frac{1}{2}$ em. above the bladder reflection, stripping down of the peritoneum, shaping of a posterior flap, seizing of the uterine vessels with forceps, amputation of the uterus at the level of the internal os, excision of a portion of the mucosa of the cervix, suture of the two cervical flaps, ligature of the uterine arteries, suture of the peritoneal edges over the stump, closure of the wound without drainage. His patient recovered. In the same year, Goffe described a similar method.

In 1891, Chrobak gave a detailed description of the steps of the operation of subtotal hysterectomy, and this technic came to be known throughout Germany as Chrobak's operation. In 1892, Baer did for the English speaking peoples what Chrobak had done for the Germans. Baer has received credit for being the first to tie separately the uterine arteries, but this honor rightly belongs to John Ballinger.

The general adoption of the intraperitoneal technic for hysterectomy, with separate ligature of the uterine arteries dates from 1892. Since that time no essential modification has been made in the technic of subtotal hysterectomy as carried out in ordinary cases.

The first carefully planned *total* hysterectomy was performed by Bardenheuer in 1881. In 1892, Doyen published his method of panhysterectomy, the essential feature of which consisted in the opening of the vagina posterior to the cervix with subsequent dissection carried up on the anterior side of the cervix. In 1894, Pryor reported his method, which consisted of the successive division of the broad ligament and uterine artery of one side, the opening of the vagina of that side and the carrying up of the dissection in the reverse direction on the other side. In 1896, Kelly brought out a method of bisection of the uterus for difficult cases. This method however, has not found a great deal of favor with the profession. Vaginal hysterectomy for fibroid is of historical interest only, and need not be considered here.

SUBTOTAL VS. TOTAL HYSTERECTOMY.

Each operation may have its peculiar indications. Where the cervix is normal and where there is no indication of coexisting malignancy, the majority of gynecologists favor the subtotal operation, for the following reasons:

1. It is easier and requires less time.
2. There is less risk of hemorrhage from the cervical stump.

3. The cervix is cut through at a point which is usually sterile as opposed to incision into a vagina containing all sorts of germs
4. Leaving the cervical stump in situ, affords a much better support for the vagina and bladder, and leaves a deep vagina.
5. There is smaller risk of injury to the uterus.
6. The mortality is lower.

The strongest argument in favor of the complete operation is that excision of the cervix removes all possibility of the development of cervical carcinoma subsequent to operation. It may be stated, however, that carcinoma seldom develops in a nulliparous cervix and that the largest percentage of fibroids occur in nulliparous women. Further, in the subtotal operation, the mucous membrane of the cervix may be entirely removed. The mortality in the complete operation, is sufficiently greater to more than offset the occasional carcinoma that develops in a cervix left in situ in the subtotal operation.

It has been the writer's plan for some time past, to employ the subtotal technic for all suitable cases. As soon as the uterus has been removed, however, it is split open and carefully examined for areas suspicious of malignancy. If such an area is found, then the cervix is completely removed.

CASES SUITABLE FOR HYSTERECTOMY.

Not all fibroids require hysterectomy, or even myomectomy. Neither should fibroids be looked upon as innocent tumors, tumors which will atrophy at the menopause and cause no further "trouble." According to Tracy, 31 per cent. of all fibroids undergo, during their life history, degeneration of some kind. This author is also responsible for the statement that 9 per cent. of all fibroids in women who reach the age of 50, are associated with carcinoma. Noble estimated that in 17 per cent. of all cases fibroids were either directly or indirectly the cause of death of the individual. (Noble reported a series of 3550 cases.) So it appears that we cannot longer look upon fibroids as "innocent tumors," and we must adopt a more radical method of treatment than formerly.

The following plan has been satisfactory to the writer: (1) All women with small, or symptomless fibroids should be kept under observation and should be told the reasons therefor, even though, it does make them "nervous" or hysterical—this is a part of the physician's duty to his patient. (2) All large fibroids, whether causing symptoms or not, should be subjected to hysterectomy, these will sooner or

later cause symptoms. (3) All fibroids causing symptoms should be removed either by myomectomy or hysterectomy. (4) In women of the childbearing age, who wish their reproductive organs preserved, and in whom the fibroids are small and suitable for myomectomy, should have the latter operation done. Although the field of myomectomy appears to be growing smaller and smaller each year, it has its certain indications, one of which is, the subserous tumor in an otherwise normal uterus, and another would be the subserous tumor in a pregnant uterus which causes pain or pressure symptoms. (6) Patients who have been debilitated by fibroids through hemorrhage, heart lesion or what not, to such an extent that they are dangerous surgical risks, should receive the benefit of X-ray, radium or blood transfusion as a preliminary measure. (7) Necrotic submucous fibroids may in many instances be satisfactorily removed per vaginam.

While a small number of so-called "cures" from the use of radium have been published by one or more radium enthusiasts, the writer cannot accept the dictum that all fibroids should be subjected to radium therapy. Fibroids are slow growing tumors. The statement that these tumors may be made to disappear with radium has not as yet been proven, because insufficient time has elapsed since the first cases were treated. Thomas J. Watkins of Chicago who has treated many cases with radium, sums up the matter well when he states:

"It is necessary to have further experience with radium before definite statements as to its use in fibroids can be made."

Subtotal hysterectomy for fibroids has been tediously and carefully developed over a long period of time until at present it is one of the safest and most satisfactory of operations; the mortality in all cases should not exceed 3 per cent., and in ordinary cases should be less than 1 per cent.

TECHNIC.

There are many variations of technic, and the best results will be obtained where the technic is adapted to the individual case. Where the uterus is freely movable it matters little what technic is employed if the basic principles of the operation prevail. These are:

1. Absolute control of hemorrhage.
2. Freedom from injury to bladder and ureters.
3. Proper support left for the bladder and vagina.

4. Prevention of adhesions by careful peritonization of the cut edges of the broad and round ligaments and the cervical stump.

The technic in the early days consisted of ligature of the broad ligaments, transverse division of the peritoneum $1\frac{1}{2}$ cm. above the bladder reflection, stripping down of the peritoneum, shaping of anterior and posterior cervical flaps, seizing of the uterine arteries, amputation of the uterus at the level of the internal os either with a wedged shaped or conical incision into the cervix, thus removing a portion of the cervical mucosa, suture of the cervical flaps, ligature of the uterine arteries, suture of the peritoneal edges over the stump, and closure without drainage. This is still a good technic, but one more step should be added viz. suture of the round ligaments into the cervical stump before the latter is covered by peritoneum. Another method used a great deal and which is suitable for a greater variety of cases is as follows: Clamps are applied to the vessels in the broad ligament beginning with the infundibulo pelvic portion. A large clamp is applied to the tube and round ligament close to the uterus, then the broad ligaments are severed by the clamp and cut method, i. e., clamps are placed successively on the broad ligament and that portion of the latter contained in the clamp cut, then more and more of the broad ligament is grasped and cut until the cervix is reached, when the peritoneum is incised transversely and stripped down. Especial care is taken when the uterine artery is reached to introduce the clamp very close to the uterus so as to avoid injury to the ureter. This technic is then repeated on the opposite side. When the corpus is ready to be amputated, the cervix is cut through either by a V shaped or by a conical incision, thus removing a portion of the cervical mucous membrane. The cervix is next sewed over. The most important part of this technic consists in the in-

troduction of the suture ligature. Beginning at the infundibulo pelvic ligament with a long No. 3 catgut suture the ovarian is sutured and tied, then the broad ligament between this and the round ligament is sutured and tied; after this, successive portions of the broad ligament are caught in the suture-ligature until the cervix is reached and this latter is also caught in the suture. The result is a strong cordlike structure extending from the pelvic brim to the cervix, holding up the cervix and with it the vagina and bladder. Careful peritonization of the cut edges of the broad ligament and cervical stump follows, and the incision closed in the usual manner. In cases where the uterus with the tumor is firmly wedged in the pelvis, or in which an intraligamentary tumor exists, or where adnexal disease and adhesions are present, or a suspected malignancy complicates, a modification of the above technic may be required. A tumor wedged in the pelvis may usually be taken care of by beginning on the side least involved, cutting through the cervix then continuing up the opposite side in the reverse direction i. e. from the cervix up to the infundibulo pelvic ligament. This technic is also suitable for the intraligamentary fibroid.

In cases where adnexal disease and adhesions are present, these complications must first be taken care of; occasionally in this class of cases it may be deemed advisable to resort to bisection of the uterus. Where malignancy is present, there is only one course to pursue viz. complete hysterectomy by a more or less radical method. The simpler cases should have no mortality; the complicated cases will have a small mortality. The poor surgical risks should be very carefully dealt with; these latter should be given blood transfusion, X-ray, radium or whatever treatment seems best to bring them up to a condition in which operation may safely be done.

Holadin and Bile Salt Mixtures.—The period of acceptance having expired, the Council on Pharmacy and Chemistry decided to omit the following mixtures from New and Nonofficial Remedies: Holadin and Bile Salts-Fairchild, Capsules of Bile Salts, Succinate of Soda and Phenolphthalein-Fairchild, Capsules of Holadin, Bile Salts and Phenolphthalein-Fairchild; Capsules of Holadin, Succinate of Soda and Bile Salts-Fairchild. The Council holds that these mixtures are superfluous and that the several substances of which they are composed should be used singly, or at most with greater attention to the individual requirements of the patient than is possible when these fixed mixtures are prescribed. De-

spite that these mixtures have been in use for more than nine years, there is no satisfactory evidence that they possess any advantage over the simple laxatives, or the preparations of bile or pancreatic extract. The dismissal of the holadin and bile salt mixtures does not involve the question of the usefulness of holadin or of bile salts alone. On the contrary, the possible usefulness of these preparations is admitted and they are retained in New and Nonofficial Remedies. It is the combination of holadin, bile salts, sodium succinate and phenolphthalein to which objection is made by the Council (*Rep. Coun. Pharm. Chem.*, 1918, p. 59).

The Journal

OF THE

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October

Editorials

UNITED STATES PUBLIC HEALTH SERVICE. ITS CARE OF OUR EX-SOLDIERS.

Dr. Arthur M. Hume of Owosso has been appointed Supervisor for Michigan in the work of the U. S. Public Health Service in providing medical, surgical and hospital care for our ex-soldiers.

The United States has been divided into Districts with Michigan, Illinois and Wisconsin comprising the Eighth District with Dr. Bert W. Caldwell as District Supervisor aided by a State Supervisor for each state of the district.

The care of the ex-soldier has been placed with the U. S. Public Health Service and is under the direction of Surgeon General Blue. Through this service, hospital, medical and surgical care is provided, and in addition such medicines and appliances as may be needed for the treatment of those conditions that exist or may arise as the result of the soldier, sailor, marine or nurse's service during the recent war. To receive this care it must be revealed by exam-

ination or physical condition for which treatment is sought that it is the result of service in some branch of our military forces.

The organization in Michigan is practically complete. Hospitals have been selected and a staff of acting assistant surgeons and examiners U. S. P. H. Service, have been appointed to provide this care. Dr. Hume will have direct supervision over these appointees and the work in this state.

Thus the Government has made ample provision for the care of its discharged fighting forces. The service is free, to every ex-soldier, nurse, sailor or marine, providing their condition is one that was incurred in or resulted from their military service. There is no reason why any ex-military person should be deprived of this medical attention. All that is required is to call upon the nearest U. S. Public Health Surgeon, of which every county has one or more appointees, for this work. The appointments were made before the scope of the service was announced, thus avoiding political influence from dominating the selection of the medical staff in each state.

LEGISLATION RELATING TO MICHIGAN'S PROFESSION.

Of vital interest and importance to every doctor in Michigan, the recent laws passed by our last legislature are drawn to your attention. It is essential that you read them carefully, become conversant with their provisions and observe compliance.

The bill relating to venereal diseases contains provisions that make it mandatory for physicians to report all their cases. It also specifies certain requirements to be observed in prescribing and treatment.

AN ACT.

To protect the public health; to prevent the spreading of venereal diseases, to prescribe the duties and powers of the State Department of Health and of local health officers and health boards with reference thereto, and to make an appropriation to carry out the provisions hereof. The People of the State of Michigan enact:

Section 1. The diseases commonly known as syphilis, gonorrhea and chancroid are hereby declared to be dangerous, communicable and infec-

tious diseases and are declared to be subject to all the laws of the State pertaining to such diseases, except as in this act modified or otherwise provided.

Section 2. The State Department of Health is hereby authorized and directed to adopt rules and regulations to prevent the spreading of said diseases to facilitate the proper treatment thereof and to regulate the quarantining and isolation of infected persons. Proper steps should also be taken for the dissemination to the public of such information as is deemed proper and expedient to prevent infection from said diseases. A system of reports for the use of physicians and health officers shall be prescribed, and suitable blanks shall be prepared and furnished to physicians and health officers. A physician or health officer having knowledge of a case of syphilis, gonorrhea or chancroid shall immediately report the same in accordance with the rules and regulations of the State Department of Health and shall give such detailed information as may be required by said Board. All such reports and all records and data of the State Board of Health or any local health officer pertaining to the care and treatment of such diseases are hereby declared not to be public records.

Section 3. The State Department of Health is authorized and empowered to provide for the treatment of cases of syphilis, gonorrhea and chancroid in proper institutions and may make contracts and agreements with the managing board or officers of such institutions for the admission and care of patients hereunder. Any such person while undergoing treatment shall be deemed to be in quarantine in such institution and shall be subject to all laws and regulations pertaining thereto. The State Department of Health is hereby authorized and empowered to employ such assistant inspectors and physicians as may be necessary to carry out the provisions hereof and to fix the compensation of all persons so employed.

Section 4. Any physician or local health officer who fails to report any case of syphilis, gonorrhea or chancroid in accordance with the rules and regulations of the State Department of Health, or any person who while receiving treatment for any such diseases under the direction, supervision and control of the said board as herein contemplated, shall without leave break quarantine and leave the place of treatment, or any persons who shall violate any of the provisions of this act or the rules and regulations of the State Department of Health adopted hereunder shall be guilty of a misdemeanor, and upon conviction shall be liable to a fine of not more than

one thousand dollars or to imprisonment in the county jail for not more than one year, or to both such fine and imprisonment in the discretion of the court.

Section 5. After October first, nineteen hundred nineteen, it shall be unlawful for any druggist, pharmacist, or other person to sell, barter, or give away any drug, medicine, or other remedy whatsoever for the treatment of any of the diseases specified in section one hereof, except upon the prescription of a duly registered and practicing physician. Such prescription shall be marked "C. V. D." and shall set forth the name and address of the patient and the date when given. All prescriptions filled by any druggist or pharmacist hereunder shall be numbered consecutively, and shall be kept on file for a period of not less than two years. Each prescription shall have stamped or written thereon the date of filling. All such prescriptions so kept on file shall be subject to inspection by the prosecuting attorney of the county, or by any duly authorized police officer or by any representative or inspector of the State Department of Health. On the first day of each month each said druggist and pharmacist shall make a detailed report to the State Health Department in such form as may be prescribed thereby, covering such prescriptions. No physician, druggist or pharmacist shall administer any treatment or remedy whatsoever for any of said diseases; nor shall any physician sell or give to a patient so affected any drug, remedy or medicine therefor: Provided, That a duly registered and practicing physician may give office treatments: Provided further, That any physician in any town within this State may fill a prescription, given to a patient affected with any disease specified in section one, if there is no drug store or pharmacy conducted within a distance of five miles therefrom or he is the authorized physician of any corporation who dispenses drugs or medicines to the employes of said corporation. All such prescriptions so filled by any physician shall be immediately reported to the State Health Department, and shall be kept on file by the physician, subject to inspection in the same manner as is above provided for the inspection of similar prescriptions filled by druggists and pharmacists. Any physician, druggist, pharmacist, or other persons violating any of the provisions of this section shall be deemed to be guilty of a misdemeanor, and shall be subject to the penalty hereinbefore provided in section five. Any such violation by physician, druggist or pharmacist shall also be deemed sufficient reason for revoking the license granted thereto.

Section 6. There are hereby appropriated from the general fund for the use of the State Department of Health, for the purposes of carrying out the provisions of this act, for the fiscal year ending June thirty, nineteen hundred twenty, the sum of one hundred fifty thousand dollars; and for the fiscal year ending June thirty, nineteen hundred twenty-one, the sum of one hundred fifty thousand dollars, for the purposes and in the following amounts:

Personal service (salaries and wages):

	For the Fiscal Yr. 1919-20	For the Fiscal Yr. 1920-21
Clerks (9 at \$1,000 each, per year)	\$9,000	\$9,000
Clerk (1 at \$1,100 per year) ..	1,100	1,100
Clerks (4 at \$1,200 each, per year)	4,800	4,800
Clerks (part time, 3 at \$400 each, per year)	1,200	1,200
Director social service dept. ..	1,800	1,800
Assistant to secretary	1,800	1,800
Matrons and attendants	1,200	1,200
Totals for personal service	\$20,900	\$20,900
Supplies	\$ 1,350	\$ 1,350
Stationery, books and paper ..	400	400
Equipment and furniture ..	50	50
Printing and advertising ..	925	925
Transportation, telephone and telegraph	9,700	9,700
Hospital care and treatment ..	116,613	116,613
Fixed charges	62	62
Totals	\$150,000	\$150,000

Each of said amounts shall be used solely for the specific purposes herein stated.

Section 7. The amounts hereby appropriated shall be paid out of the State treasury, and the disbursing officer of the State Department of Health shall render his accounts therefor, at such times and such manner as is or may be provided by law.

Section 8. All fees or other moneys received by said institution shall be forwarded to the State Treasurer each month and shall be by said treasurer deposited in the State Treasury to be disbursed in such manner and for such purposes as may be provided by law.

Section 9. The Auditor General shall incorporate in the State tax for the years nineteen hundred nineteen and nineteen hundred twenty, sufficient amounts to reimburse the general fund for the appropriations hereby made.

This act is ordered to take immediate effect.

AN ACT

To prohibit the employment of persons affected with infectious or venereal disease in places where cigars are manufactured.

The People of the State of Michigan enact:

Section 1. No person who is affected with any infectious disease, or with any venereal disease in a communicable form, shall work, or be permitted to work, in any place where cigars are manufactured. Whenever required by any local health officer, any person employed in such place shall submit to a physical examination by such officer, or by some physician designated by such person so employed. If as a result of such examination, such person shall be found to be affected with any infectious disease, or with any venereal disease in a communicable form, such employment shall immediately cease and such person shall not be permitted to work in any such place.

Section 2. Any person knowingly affected with any infectious disease, or with any venereal disease in a communicable form, who shall work in any place defined in section one, and any person knowingly employing or permitting such person to work in such place, shall be deemed guilty of a misdemeanor, and upon conviction, shall be punished by a fine not exceeding two hundred fifty dollars or by imprisonment not exceeding one year, or by both such fine and imprisonment in the discretion of the court.

AN ACT

To prohibit the employment of persons affected with infectious or venereal disease in places where food or drink is manufactured, prepared, served or sold.

The People of the State of Michigan enact:

Section 1. No person who is affected with any infectious disease, or with any venereal disease in a communicable form, shall work or be permitted to work in any place where food or drink is prepared, cooked, mixed, baked, exposed, bottled, packed, handled, stored, manufactured, offered for sale or sold. Whenever required by any local health officer, any person employed in any such place shall submit to a physical examination by such officer, or by some physician designated by such person so employed. If as a result of such examination, such person shall be found to be affected with any infectious disease, or with any venereal disease in a communicable form, such employment shall immediately cease and such person shall not be permitted to work in any such place.

Section 2. Any person, knowingly affected with any infectious disease, or with any venereal disease in a communicable form, who shall work in

any place defined in section one, and any person knowingly employing or permitting such person to work in such place, shall be deemed guilty of a misdemeanor, and, upon conviction, shall be punished by a fine not exceeding two hundred and fifty dollars or by imprisonment not exceeding one year, or by both such fine and imprisonment in the discretion of the court.

This act is ordered to take immediate effect.

AN ACT

To provide for the punishment of persons who share in the proceeds of prostitution, and for the competency of certain evidence at the trial thereof.

The People of the State of Michigan enact:

Section 1. Any person who shall knowingly accept, receive, levy or appropriate any money or other valuable thing without consideration from the proceeds of the earnings of any woman engaged in prostitution, or any person knowing a female to be a prostitute, shall levy or derive support and maintenance, in whole or in part from the proceeds of said prostitute, or from moneys loaned or advanced to or charged against her by any keeper, or manager or inmate of a house or other place where prostitution is practiced or allowed, or shall share in such earnings, proceeds or moneys, shall be deemed guilty of a felony, and on conviction thereof, shall be punished by imprisonment for a term of not more than five years. Any such acceptance, receipt, levy or appropriation of such money, or valuable thing, shall, upon proceeding or trial for violation of this section, be presumptive evidence of lack of consideration.

Section 2. Any such female person referred to in the foregoing section shall be a competent witness in any prosecution under this act, to testify for or against the accused as to any transaction, or as to any conversation with the accused, or by him with any person or persons in her presence, notwithstanding her having married the accused before or after the violation of any of the provisions of this act, whether called during the existence of the marriage or after its dissolution.

Doctor, don't fail to read every paragraph of these new laws.

AWAKENING.

Are we awake or awakening to the need of protecting our professional interests as they only can be protected by organizational cooperation?

Are we aware that wonderful changes are being wrought in the commercial and industrial world?

Are we aroused to the fact that as a profession our interests and future are involved in these social changes that are rapidly being formulated?

As one goes about, meets and talks with the men who are moulding public and business policies, as one notes by comparison conditions of last year or two years ago and as they are today, he cannot help but detect the almost revolutionary changes that have taken place and are taking place.

We as doctors are involved in this new state of affairs that surrounds us. Our interests are at stake. Upon our action and attitude depends whether we shall be dictated to or dictate. Only as we recognize our relationship, our future, only as we discuss, plan and inaugurate our new policies and attitudes—only in the degree that we meet these changes—only to that extent will our interests be protected. The conservation of our interests can be best attained through the activity of our county societies.

So we ask are we awake or are we only just awakening? It is within your province to prevent that awakening coming too late by boosting your County Society, aiding in carrying on active live meetings, discussing the problems confronting us and by inducing your fellow practitioners to do likewise. Your activity is imperative; upon you as an individual rests the responsibility of keeping Michigan's profession awake to its interests.

THE LEAGUE OF NATIONS.

For the past few months, we have not been able to pick up any newspaper in the United States without being confronted with a comment pro or con on this vast subject, which in truth so few of us know anything about.

Out of the heterogeneous mass of "information" that has been foisted upon us regarding this weighty problem, we are sure of one thing at least—the sum and substance of the whole thing resolves itself down to one thing—cooperation, yes, the co-operation of governments, the leading powers of the world; framed by men who hold the very destiny of the human race in their grasp; men, who have seen at first hand the abject misery that can accrue from the selfish motives of one nation, or peo-

ple, in their self-centered striving for world dominance.

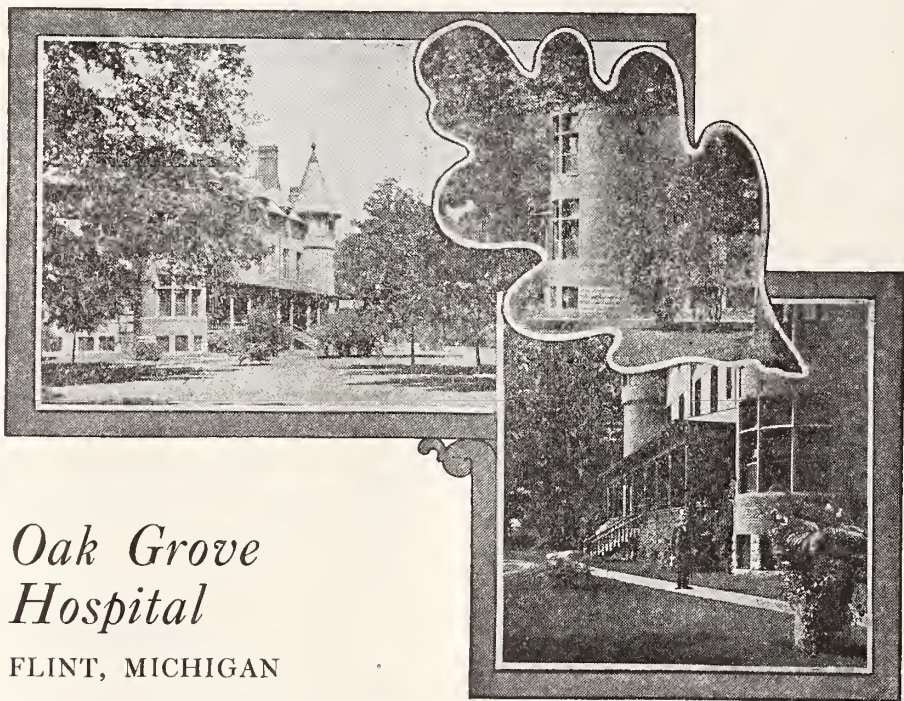
If international conditions can be benefited by the combined effort of the powers, it stands to reason that the individual, in his own little sphere, can also realize the betterment of his and his neighbors' attitude and standing in the struggle for economic existence, by working with his fellow man instead of against him. The analogous condition between the late world struggle and some of our own little minute existences must be apparent after a little consideration.

We have seen the results obtained by co-operation and working together in other vocations and step by step, we have seen well or-

ganized effort emerge from chaos by the simple means of all working for the same end.

Must the doctors continue to fight a lone hand with their backs to the wall and instead of advancing hand in hand with Father Time, which their training entitles them to, be pushed out of line in the steadily growing parade to a higher degree of efficiency in human endeavor? We know it isn't necessary and so does every member of this society. We want Michigan to carry the banner in this march of the doctor on to victory and when we say Michigan, we mean Michigan to a man. Each one of us for all of us for all time.

Help us to help you.



Oak Grove Hospital

FLINT, MICHIGAN

OAK GROVE AND DR. BURR.

Readers of the Journal have missed from the August number the familiar advertisement of Oak Grove, Flint. Although it is expected that the Hospital will continue in existence for a year, the property will, if present plans do not miscarry, be then sold to the City of Flint for a High School site.

It has long been felt by the Directors that this magnificent tract of land covered with ancient forest trees, so carefully conserved during the thirty years of the Hospital's ownership and practically maintained as a City park in

private hands, should be in the possession of the public in perpetuity. It could scarcely be otherwise. Situated as it is in the midst of a rapidly growing city, it has now become indispensable to the park system.

The embarrassment which the retirement of Oak Grove from the field of psychiatry will entail is very great indeed, and a source of deep regret to its officers, employees, and clientele. It was never as much needed as now but the stress of commercial life and industrial expansion compel as in the case of McLean Hospital, Massachusetts, and Bloomingdale, New York, the abandonment of premises which at

the time of location were suburban and unimportant from the real estate viewpoint. During the twenty-eight years (twenty-five under the present management) since Oak Grove was opened for the reception of patients, above 2,200 have been cared for and in a manner to command public confidence. Its influence has been widely extended and its usefulness has steadily increased. While successful financially speaking it has been the occasion of much satisfaction that the high ideals of its founders have been kept continually in view and that pecuniary considerations have never been permitted to control or indeed to materially affect its professional and philanthropic policies.

With Oak Grove are inextricably linked the names of Dr. George C. Palmer, formerly Superintendent of the Kalamazoo State Hospital, W. G. Vinton, Jas. A. Remick, J. S. Farrand and Thos. Pitts of Detroit, Ex-Governor Jerome of Saginaw, Ex-Governor Begole of Flint, C. T. Mitchell of Hillsdale, J. D. Norton of Pontiac, Dr. Henry M. Hurd of Baltimore, Dr. J. D. Munson of Traverse City, and Dr. E. A. Christian of Pontiac, all at one time or another directly related to State Hospital service; also George B. Remick of Detroit, Justice H. B. Brown of the United States Supreme Court, Wm. L. Smith and Wm. Hamilton of Flint, Dr. J. F. Noyes of Detroit, S. P. Cranage of Bay City, Chas. Stinchfield and Jas. L. Edson of Detroit, and W. W. Crapo of New Bedford, Mass., whose father, Governor Crapo, originally owned the land on which the hospital buildings were erected.

Two former Presidents of the Michigan State Medical Society, Dr. W. H. Sawyer of Hillsdale and Dr. C. B. Burr, the present Medical Director, have been members of the Executive Board. At the time of the Stockholders' annual meeting in July, Dr. Burr, who has been for nearly twenty-five years the Secretary, was elected President of the Corporation.

The *Journal*, and through it, our members regret the passing of this institution for which we have all had such a high regard and respect. It was an institution, no, a home, to which we were able to refer our mental cases with the confidence that the examination, opinion

and treatment would incorporate all that modern psychiatry possessed.

But after all Oak Grove, to most of us, meant Dr. C. B. Burr, whose professional attainments and personality dominated Oak Grove. Dr. Burr needs no eulogy—he has won a place, in the heart of the profession, which is lasting. He has been a frequent contributor to the high class medical publications and has thus passed on his experiences and scientific conclusions. His *Handbook of Psychology* has been of exceptional value to the profession and a fifth edition will soon appear. Dr. Burr will continue to reside in Flint and limit his work to consultations.

Editorial Comments

A residence converted into a hospital by the taking out of two partitions on the north side second floor, the laying of a patent floor cement, the painting with enamel and installation of a sterilizer, instrument cabinet, operating table, etc.; the painting of other rooms, the purchase of hospital beds and stands; putting in an electric call system, with battleship linoleum on the floors; replacing the old kitchen stove with a larger range and the purchase of an ice box; the naming of this renovated old homestead as "Pleasant View," "Maple Grove," "Elmdale" hospital or some other similar name selected to mitigate the name hospital—all this does not make it a hospital in the modern sense of what such an institution must be to be so designated. Neither does the half or a million dollar brick and marble building, with all hospital architectural refinements and equipment imply that it excels or outranks the first described building in the medical and surgical diagnosis and treatment of disease. In brief—the building, whether a remodeled home or specially constructed, does not indicate its standard or justify the name of hospital. Many instances exist where the former is the real hospital and the latter a "sick person's hotel." A hospital's standard is indicated by its statistical records laboratories, staff personnel, case histories and "follow up" results of the treatment administered. For Michigan this standard will prevail in the classification of our hospitals by the Hospital Committee of our Society. The Committee is composed of Drs. Le Fevre, Guy L. Connor, A. M. Hume and D. Emmett Welsh.

Results of their inspection and classification will be published in an early issue.

Time and tide wait for no man, if you're not up with the procession, begin looking around for that old life preserver.

"I have found doctors to be the most cut-throat unethical, selfish, slandering and unprincipled group of professional individuals in this country today. Since the armistice was signed I have noted on frequent occasions their actions that have compelled me to make this appraisal." This was the indictment pronounced as we heard it in the smoking apartment of a Detroit train the first of September. Later we learned that the speaker was an editor of a large daily paper in a metropolitan city and his friend an attorney. No, we didn't join in the conversation or start an argument. Still, we pondered and have been pondering since upon whether we merit this appraisal. We are passing it along for your meditation. Are you doing anything to warrant this pronouncement? Are you doing anything to refute it?

This harping and everlastingly commenting upon the need of active participation in society work through your local county organization is not a pleasant editorial task. Nevertheless it seems that in doing so we succeed in a measure in stimulating a moderate degree of enthusiasm and interest. Frequently it's only very moderate and hardly justifies being termed enthusiasm. Sometimes we admit discouragement and feel that probably a good hard jolt will be beneficial. Said jolt to be caused by everyone indulging in several months of hibernation followed by an awakening that we have lost out, individually, collectively, professionally and financially in our sphere of medicine and surgery in its relationship to the public, state and nation. We preach the need of organizational activity, the need exists, but the response is often very, very feeble. Will someone please rise up and tell us why?

"Tonics and Sedatives" (A. M. A.) is bemoaning the fact of "Land, Land Everywhere, and not a drop to drink." If he is so hard pressed we invite him to sojourn in Michigan awhile—no, not to drink but to drive the bar room cobwebs out of his brain by inhaling pure air, eating delicious fruit, meeting aggressive people and learning how to live. We never did like Chicago and especially the north-side near the lake front where only natives hold "threes," "fours" and full houses. And then who ever heard of "Teeandesslets?" That's a new one, sprung during our absence, and what is stranger still it doesn't seem to be of French origin. But, Oh Hum, some must have something "freakish"

if not in their dress, then in their work. Come on, Brother, speak right up, we realize we have left an opening—but it's our last deal for the consolation "rake in" so shove, Fishman, shove in the blue ones, Goodwin is waiting to horn in also. What? Yes, Michigan we said. (Continued in our next.)

We're waiting for your call. Our cards are on the table. We don't want this to be a game of solitaire. What we want, is action.

Chicago's health authorities activity in preventing the marriage of a man with an open tuberculosis is commendable. The sooner such action becomes nation wide, just so soon will we make marked progress in combatting that disease. Society has the right to protect itself against the weak and unfit. As it exercises that right it will prevent the alarming increase of morons. Chicago's activity should be instituted in Michigan.

Gratiot-Isabella-Clare County Society has attained and maintained an excellent standard of society activity. The result is a group of doctors who are profiting by the splendid meetings that are being held. Secretary Highfield's persistence and capable work is responsible to a large degree for developing the interests and maintaining such a commendable professional cooperation. We have always maintained that a live, aggressive secretary will be found in every county society that is awake and flourishing. If your society is dead or asleep, elect a live secretary and he will wake things up, though sometimes it takes time. However, if he is the right man he will have his society "hitting on all six" before many months pass by.

Our next annual meeting will be held at Kalamazoo. And knowing Kalamazoo doctors as we believe we do, we predict an annual meeting that is going to be of benefit and of interest. From time to time we shall announce plans as they are perfected by our hosts—the Kalamazoo doctors.

Our upper state doctors have finished their heavy resort season work, had their vacation following it, now we want to hear from them by receiving reports of well-attended and profitable county meetings. Now is the time to become re-interested in your local meetings. Secretaries, please send us the reports of your meetings.

The legislative enactment prohibiting the prescribing and dispensing of remedies or drugs by druggists or their clerks for venereal disease be-

comes effective this month. It now devolves upon the profession not only to treat these diseases by accepted modern methods but also to disseminate information that will prevent their spread. An opportunity is thus presented whereby we can do effective work to lessen the evils of this "black plague."

Military Surgeons and Veterans of the Medical Service will hold their annual meeting in St. Louis, October 13-15th. Michigan should be well represented for we have a large number who are eligible to membership in that organization. Dr. Vaughan is President of the Medical Veterans' Association.

Do you want a meeting or re-union of all ex-service men at our Annual Meeting in Kalamazoo? We would like to learn your wishes and offer to assist in arranging for such a meeting providing sufficient interest is shown. Please do not wait, because it takes time to plan for such a meeting and six months is not any too long a time to prepare and execute such plans as will be necessary for a worth-while meeting.

Are we striving in vain for a concerted boost for the profession of Michigan only to find part of the rungs of the ladder missing?

If we are unable to secure replies to three letters from County Secretaries we do not wonder that some county societies are dormant. If your Society has a secretary who is too busy to answer a letter—he is too busy to secure speakers or plan a program for your meetings. So we suggest that you bear this in mind when holding your next annual meeting. Incidentally if you have a good secretary, keep him and show your appreciation by something more than a "vote of thanks." An honorarium, a gift, or some similar token for the work of the past year will please him and cause him to feel like digging in harder next year.

We are ready and eager to help in providing essayists or the arrangement of a clinical meeting for your meetings. Program Committees will have all our facilities available to aid them during the coming year.

Just because the other fellow shows a little extra pep and "get-up-tiveness" don't get sore and commence to knock. A knocking auto engine is sufficient trouble for most of us but deliver us from a "knocking doctor."

A Rally and Reception meeting of Bay County Medical Society will be held at Elk's Temple, Monday evening, September 8th, 1919.

Banquet at Six P. M., after which we will be addressed by the President of Wayne County Medical Society, Dr. Geo. E. McKean, of Detroit.

Subject: The Present, the opportune time for the man in "General Medicine." All returned members from the U. S. Service are cordially asked to be present.

DR. MORTON GALLAGHER,
Secretary and Treasurer.

The above is a splendid indication of Bay County members' start for a prosperous year. Similar meetings should ensue in all our counties. We urge officers and program committees to plan and conduct such meetings for their respective societies this month.

A little child shall lead them. The infant prodigy—coordination—is just cutting his eye teeth. Get in the band wagon and go over the top with the bunch.

Many of our returned soldiers are evidencing signs of neuroses of one type or another. When a physician is consulted, unless he is careful, he may attribute the condition to some local condition that is the chief complaint and thus direct treatment and overlook the principle underlying factor. The condition of the patient is aggravated and harm is done. We urge a more careful study of these patients lest we unintentionally encourage a large percentage of disability. Many of these boys, anxious for discharge, covered up their physical condition, thus escaping detection in their final physical examination. They returned home and soon their family or friends detected a gradually increasing set of symptoms functional in origin. It is here that a display of sympathy is so dangerous.

We urge the refrainment of undue sympathy or coddling care. Withhold and tell the family to withhold emotion or anxious concern. Treat the disability as though it were non-existent and direct your efforts to aid the patient to regain his equilibrium. Remember that the majority respond to proper treatment for their psychoneurosis.

We have seen several such cases in the past few weeks. One had been in bed for six weeks with the doctor treating him for heart weakness. Another had been in the hospital for five weeks with treatment for his lungs as the result of "gas." Neither presented heart or lung lesions. The heart case is now walking five miles a day and engaging in other physical exercises and is rapidly improving.

The lung case spent three weeks at a small lake and then felt well enough to go to work.

There have been published a number of excellent articles on War Neuroses and Neuro Circulatory Asthenia. We urge a careful perusal of the literature and an alertness to this feature of the returned soldier problem.

We are in receipt of an advertisement stating: "Carnegie an earnest supporter of Metric Units." We are unable to determine whether this is ante or post mortem information. We await further enlightenment by our "air service."

"Let's Go" was a favorite doughboy expression. It's applicable to our organization right now. "Let's Go" to our County Society meetings and as County Societies "Let's Go" on a series of meetings that will attract and interest every doctor in your vicinity—What do you say?—Let's ALL Go?

Again do we solicit news notes, case reports and personal items. Your comments are also welcome. We want you to have a vital and personal interest in your *Journal*.

Samson was a wonderful guy in his day but since the advent of the safety razor, it's no longer a one man job. It's a case, now, of all the king's horses and all the king's men.

Correspondence

Boyne City, Mich., Sept. 5, 1919.

Dr. F. C. Warnshuis,

c-o The Journal Mich. State Society,
Grand Rapids, Mich.

My Dear Doctor:

In this section we hear a great deal about the system of fee-splitting and this pernicious proposition, from all reports, is most active and no defence can be offered by any person operating such a plan. If it exists and if it is wrong it should be attacked. I would appreciate if you would kindly let me know what position the Michigan State Medical Society takes on this question. The editorial, Eventually, Why Not Now? was fine and gets back to my subject regarding the medical fraternity, being efficient in a moral question of finance as well as scientific.

Trusting I shall have the pleasure of meeting Mr. Harold O. Gurney and with kindest regards,

Yours fraternally,

Harry E. Shaver.

Deaths

Dr. R. R. Lawrence of Hartford, Michigan, died September 10th at the age of 69 years. Doctor Lawrence had been ill but a very short time. He had practiced in Hartford for about forty years and was the oldest physician in the town.

Dr. Lawrence had long been a member of the State Society and also served as Local Surgeon at Hartford for the Pere Marquette Railroad. He is survived by a brother and two cousins.

Following a two day illness, Doctor Charles C. Anderson died at his home, 709 Iroquois avenue, Detroit, Mich.

Dr. Anderson, who was fifty years of age, was a graduate of the Detroit College of Medicine and Surgery, a member of the Detroit Club, and of the Detroit Commandery, No. 1, Knights Templar.

In the death of Dr. George S. Williams, who died August 15th at his home, 63 W. Webster avenue, Muskegon loses one of its most prominent physicians.

Dr. Williams was born in Rome, N. Y., in 1856. He attended the University of Michigan and the Rush Medical College of Chicago, and was a graduate of the latter institution. He is survived by the widow, one sister and one brother.

The deaths of the following doctors, not members of the State Society have been reported to us: Dr. Frank S. Hoag of Elk Rapids, Dr. A. M. Allen of Adrian, and Dr. F. J. Schouten of Holland.

State News Notes

Are you looking for a practice in town of 800 that will pay you \$5,000 cash first year. I collected \$7,800 last year. We have factory employing 50 hands, good schools, Methodist and Baptist churches, electric lighting. Fine state roads. American population. Fees good. Collect 95 per cent. Competition nil. Fine farming country surrounding. Have modern residence and office for sale on easy terms. It will pay you to investigate. c-o Journal.

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

In honor of the forty-fifth anniversary of his commencement of the practice of medicine, the Houghton County Medical Society Monday night tendered a banquet to Dr. J. E. Scallon of Hancock. It was given at the Onigaming yacht club and was in all respects a function that will be retained long in the memories of those in attendance. Thirty-five medical men of Houghton county, with a small contingent from Keweenaw and Baraga counties were seated.

Dr. W. H. Dodge acted as toastmaster and toasts were proposed in honor of Dr. Scallon by Drs. Simon Levin, A. I. Lawbaugh, J. G. Turner, W. K. West, A. F. Fischer, P. D. Bourland and A. Labine. There was excellent music by Balconi's orchestra, which won high praise from all who heard it.

Dr. Scallon was last on the list of speakers, being called upon to respond to all the many encomiums that were showered upon him by his professional associates old and young. In discussing Dr. Scallon's remarks, the physicians say he never was less witty. He was compelled to bear up under a load of praise and good wishes such as a modest man naturally would stagger under and his remarks were keyed on a dignified note in consequence. He reviewed the forty-five years of his professional life, of the changes and developments of the practice of medicine, the advances in surgery, the discoveries, the revolutions, the steady advance of the profession throughout the world. He addressed himself for a time to the younger physicians with sage observations for their guidance out of the fruits of nearly half a century of striving toward their common goal.

In every way the gathering was a success. The physicians of Houghton county feel that it was an inspiration to them.

Friday evening, Sept. 12, Dr. and Mrs. E. T. Lamb opened their beautiful home to the Medical profession of Gratiot County for a farewell to Dr. E. A. Bagley. At 7 supper was served to 24, after which we moved to the billiard room where Dr. E. H. Foust acted as toastmaster. Dr. I. N. Brainerd, who came to Alma a few weeks after Dr. Bagley, was called on first, then Drs. J. N. Day, A. R. Wheeler, F. J. Graham and N. F. McClinton, who had all known Dr. Bagley from 25 to 30 years, related what an upright, honorable, and ethical practitioner he had been. Always modest and retiring, never capable of stooping to any chicanery to further his own ends. Dr. L. A. Howe of Breckenridge said Dr. Bagley had been his ideal family physician ever since the doctor had treated him when he was a boy of 10.

On behalf of Dr. Bagley's many professional friends, Dr. W. E. Barstow with appropriate remarks presented the doctor with a handsome gold watch engraved "from the Gratiot County Medical Society."

Dr. Bagley is closing up his office to retire after 45 years in practice, 33 years of that in the same office in Alma.

Twenty years ago this fall, the Michigan State Board of Registration in Medicine began its work. The Board at that time was composed of the following members: President, Dr. M. C. Sinclair, Secretary, Dr. B. D. Harison, and Doctors A. W. Alvord, William Bell, B. Whelan, Albert Lodge, H. Haze, J. Kost, Samuel Bell and Z. L. Baldwin. During these twenty years the following doctors have been president of this board: M. C. Sinclair, William Bell, J. H. Cowell, Oscar LeSure, H. C. Maynard, A. Nyland and George LeFevre. Doctor B. D. Harison has been its secretary throughout the whole twenty years. The physicians who were members of this board for eight years or more are Doctors A. Nyland, William Bell, H. C. Maynard, A. W. Alvord, J. H. Cowell, A. M. Hume and J. L. Campbell. Twenty-seven physicians have been members of this board at one time or another during its twenty years of life.

Thos. L. Hills, formerly holding the chair of Bacteriology in Idaho University and later in the Central Laboratory of the A. E. F. in Dijon, France, is now located in Grand Rapids. Dr. Hills is Director of the Western Michigan Clinical Laboratory which has just been opened and whose chosen advertisement appears in this issue.

The Perry Hotel Petoskey has been purchased by the Doctors Reycraft and Nihart and will be remodeled into a hospital building. It will be known as the Petoskey Hospital and will have a bed capacity for 150 patients.

We haven't heard of any Michigan doctors using an airplane for making professional calls. We are anxious to print such a news note just as soon as such an event occurs.

Don't fail to read the editorial page where you will find two new laws providing for treatment and reporting of venereal diseases. Every doctor is involved in the enactments of these two laws.

The Calhoun County Society honored its service men at their first fall meeting. All the ex-service men were called upon for personal experiences drawn from their military life.

Dr. R. J. E. Oden of Cadillac has been appointed consulting surgeon, U. S. Marine Hospital, Chicago, and has also accepted a position on the staff of Augustauna Hospital.

Rudyard, a village of 500 in a very fertile township, near Sault Ste. Marie, is a desirable location. A surrounding population of 2,000 people are without a physician.

Mrs. Earl Bigham, wife of the late Dr. Bigham of Grand Rapids, announces that she has an office chair for sale at a reasonable price.

Dr. F. C. Warnshuis of Grand Rapids has resumed his duties as Chief Surgeon of the Pere Marquette Railway.

Dr. George J. Curry has been appointed city physician of Flint. Dr. Lafon Jones of Flint will be school physician.

Dr. Adeline E. Gurd of St. Clair has been appointed Assistant Professor of Neuro-Pathology, U. of M., Ann Arbor.

Dr. J. J. Holes of Lansing has reopened his office in the Post building and resumed practice.

Dr. David B. Todd of Calumet has removed to Elkhart, Ind.

Dr. C. V. High, Jr., has located in Coleman, succeeding the late Dr. Towsley.

Caseville is in need of a physician.

Dr. Edwin E. Miller of Flint has been awarded the British Military Cross.

Dr. Wm. L. Griffin of Shelby has located in Albion.

Dr. Leon B. Harris has been appointed city physician for Saginaw.

Dr. Faith Hardy has been appointed School Health Inspector for Grand Rapids.

Dr. C. L. Bennett of Gobleville has located in Kalamazoo.

Dr. F. A. Baker, formerly of Rudyard, is taking the three year fellowship course at the Mayo Clinic.

The following locations in Kent County are without a physician: Alto, Cascade, Cannonsburg, Dutton and McCords.

Dr. R. V. Gallagher of Flint, recently discharged from the Medical Corp, has resumed practice.

Dr. Durrell Lane of Port Austin has located in Bad Axe.

Owosso is contemplating the establishment of a local hospital.

Lansing has had plans prepared for the erection of a new Isolation Hospital.

Dr. G. W. Moll of Foster City has located in Escanaba.

The Clinical Congress of Surgeons meets in New York, October 25th.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

DICKINSON-IRON COUNTY

For the year to come we are going to try and transform the Dickinson-Iron County Medical Society from a "Dead One" into a real Medical Society. However, this cannot be done unless each member of the Society is willing to do his share toward making the Dickinson-Iron County Medical Society one of the best if not the best County Society in the state. **Will YOU help to make our Society better by attending each meeting and presenting a paper when called upon to do so?** If you will, success is assured us.

The next regular meeting will be held at the Pine Grove Country Club, Iron Mountain, Mich., on Wednesday, Sept. 10, 1919, 3 p. m., at which time Dr. Holmboe will present a paper on "Pre-operative and Post-operative Technique." This will be discussed by two members of the society.

The final discussion of "Increased Fees" will be taken up at this meeting.

If you have not paid your 1919 dues please remit to the Secretary-Treasurer at once so that we may clear our records with the State Society.

Please make a special effort to attend this meeting.

L. E. Bovik, Secretary.

SANILAC COUNTY

The regular meeting of the Sanilac County Medical Society was held in the High School Building, Brown City, on Wednesday, September 10th. President, Dr. J. E. Campbell, called the meeting to order at 2 p. m. Guests of honor were Dr. Angus McLean, Detroit, and Dr. M. E. Oroman, Port Huron. There were over thirty present including members from St. Clair and Lapeer Societies as our guests.

Dr. McLean gave a very interesting and instructive "Resume of the Principles of War Surgery," which was highly appreciated.

Dr. M. E. Oroman, Port Huron, gave a short talk on Tonsillectomy Technique and demonstrated his method by performing an operation upon a patient presented by one of the local doctors.

A very interesting case of Cretinism in a boy 6 years old weighing 100 pounds, was also presented by one of the local physicians.

An unanimous vote of thanks was then accorded Dr. McLean and Dr. Oroman.

Moved, supported and carried that the next meeting be held in Marlette on the second Wednesday in October, after which the meeting terminated. Then the members of the Society and their guests adjourned to the Hotel Carroll where they were entertained by the local doctors of Brown City to an elaborate chicken dinner. After participating of a sumptuous and appetite-inspiring menu and ample justice being done to the creature comforts, a very pleasant hour was spent in sentiment, under the genial guidance of Dr. J. E. Campbell. Much enthusiasm was manifested and it is the consensus of opinion of the members in attendance that this was one of the best meetings ever held under the auspices of the Society.

J. W. Scott, Secretary.

Book Reviews

TUBERCULOSIS OF THE LYMPHATIC SYSTEM. By Walter Bradford Metcalf, M.D., Associate in Clinical Medicine, University of Illinois, etc., Chicago. New York: The Macmillan Co., 1919.

An epitome of recent advances in our knowledge of tuberculous disease is so well presented in this volume, that one feels pleased to be able to call attention to it. The modern idea of childhood infection with all the logical sequelae gains acceptance readily in the mind of the scholar; its reacts in

practise with the greatest delay. The present volume details the practical use to us of the advances.

There is an admirable section on the anatomy of the lymphatics; a strictly modern account of the methods of invasion of the tubercle bacillus; and a careful resume of the pathology of the subject.

The clinical part is found in the Chapters on Diagnosis and Treatment, which are rich in practical suggestions. There is a careful discussion of the use of tuberculin both for diagnosis and treatment. On the whole there is very little opportunity to disagree with the author. Unfortunately when he says of the subcutaneous use of tuberculin for diagnosis, "When used as I have directed, it can never do any harm," some of us can testify otherwise.

Heliotherapy is hardly given the attention it deserves, and the author is evidently not personally experienced in it. The Alpine light treatment is not mentioned. D'Espines sign is approved but not described. The differential diagnosis from Hodgkin's Disease receives scant notice. Other minor points more or less unavoidable in a new monograph might be mentioned.

The attitude of the author however is so admirable that we readily forgive small omissions in view of his large service to the subject in general. The following quotation is illustrative of this point.

"There is increasing evidence that the so-called 'delicate' and 'frail' child is delicate and frail because of an existing tuberculous tracheo-bronchial adenopathy. The surgeon is slowly giving up the field of tuberculous cervical adenitis. This condition should never be allowed to become a surgical question. Tuberculosis of the lymphatic system especially during childhood, should be considered a serious affection and worthy of our best efforts."

HERBERT M. RICH.

MILK. By Paul G. HEINEMAN, Ph.D., Director of the Laboratories of the United States Standard Serum Company, Woodworth, Wisconsin. Octavo of 684 pages with 237 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth \$6.00 net.

Those interested in the milk problem, will find that the problems of the subject are covered in this splendid volume. It contains an ample bibliography for further reference and study.

We are certain that this work is bound to be of valuable aid to the profession and all others who have to do with infant feeding and the handling or distribution of milk.

PSYCHIATRIC AND NEUROLOGICAL EXAMINATION METHODS. August Winner, M.D. Translated by Andrew W. Horsholt, M.D., Napa State Hospital. C. V. Mosby Co., St. Louis, Mo. Price \$2.00.

By this translation there is provided Dr. Winner's examination methods and his presentation of the

significance of signs and symptoms. The work will be useful to American psychiatrists, especially in mental clinics and for students.

CEREBROSPINAL FLUID IN HEALTH AND DISEASE.
Abraham Levinson, B.S., M.D., Northwestern University.
Foreword by Ludvig Hektoen, M.D. Illustrated. C. V. Mosby Co., St. Louis, Mo. Price \$2.00.

Here is a practical and scientific presentation of a subject that is now receiving considerable attention. The author has handled his subject well. We urgently recommend a close study of this volume for in doing so you will receive practical methods that will be of material aid in your practice.

Miscellany

PSYCHOSES ASSOCIATED WITH INFLUENZA.

Dr. Karl A. Meninger (*Ann. of Neur. & Psych.*, Sept. 1919) draws the following conclusions:

1. Active neurosyphilis may be precipitated by influenza.
2. Hypophrenia may be augmented in degree by influenza.
3. Epilepsy may be altered quantitatively and qualitatively, that is, in the frequency and in the form of attacks, but there were no instances of its initiation by influenza.
4. Delirium tremens and other forms of alcoholic psychoses were quite frequently induced by the added toxemia of influenza but probably in no greater frequency than would obtain in a similarly large number of any acute infectious disease.
5. Of the encephalopathic psychoses the occurrence of Leichten's influenzal hemorrhagic encephalitis with a peculiar psychosis was demonstrated clinically and by necropsy.
6. Delirium remains the most polychromatic and versatile of the mental disease pictures. Its association with influenza is notoriously frequent and its manifestations bewilderingly multiform.
7. Of the psychoses associated with senility and the presenium one rather equivocal case is presented as having been initiated by influenza without previous indications.
8. Schizophrenia, cyclothymic psychosis and psychoneurosis occur following influenza with and without predisposition or previous manifestations.
9. The cases presented may be summarized by paradigms exemplifying the psychiatric effects of influenza.

- a. In the process of Creation:
Normality + Influenza =
Delirium (simple, errant, schizophrenic)

Apoplexy, Atypical Psychosis.
Senile Psychosis (?).
Schizophrenia.
Cyclothymia.
Hysteria.

- b. In the process of Precipitation:
Predisposition + Influenza =
Delirium Tremens.
Schizophrenia.
Cyclothymia.
Psychoneurosis.
- c. In the process of Alteration:
Morosis + Influenza = Imbecility.
Epilepsy + Influenza = Alterations in frequency and type.
Phychopathy + Influenza = Psychosis.
Apparent Normality (latent syphilis) + Influenza = General Paralysis.
Mild Neurosyphilis + Influenza = Advanced Neurosyphilis.

10. Influenza apparently acts on the brain in three ways: to create psychoses, to precipitate psychoses in predisposed subjects and to augment or alter their form where already existent.

PROPAGANDA FOR REFORM.

Arsenoven S. S. and Solution of Arsenic and Mercury not Accepted.—The Council on Pharmacy and Chemistry reports that Arsenoven S. S., sold by the S. S. Products Co., Philadelphia, and Solution of Arsenic and Mercury (formerly called Arseno-Meth-Hyd) of the New York Intravenous Laboratory, New York, are inadmissible to New and Nonofficial Remedies because unwarranted therapeutic claims are made for them and because the names are not descriptive of composition of these preparations. Arsenoven S. S. is claimed to contain dimethylarsinin 15.4 gr., mercury biniodid 1/10 gr., sodium iodid 1/2 grain. Dimethylarsenin is asserted to be similar to sodium cacodylate, but with a more pronounced therapeutic action. Solution of Arsenic and Mercury comes in three dosages, 2 gm., 1.5 gm., and 0.7 gm., respectively. The 2 gm. form is claimed to contain 2 gm. (31 grains) of sodium dimethylarsenate (cacodylate), U.S.P., and mercury iodid 5 gm. (1/12 grain) in 5 c. c. of solution. Both preparations are advised for the treatment of syphilis, intravenously. The report of the Council reminds physicians that cacodylates have been found inefficient as spirocheticides and warns against the abuses—often dangerous—to which patients are frequently subjected when "intravenous therapy" is employed (*Jour. A.M.A.*, Aug. 2, 1919, p. 353).

Hormotone and Hormotone Without Post Pituitary.—The Council on Pharmacy and Chemistry reports that Hormotone of the G. W. Carnrick Company is advertised as "A pluriglandular tonic for asthenic conditions." The same firm also advertises Hormotone Without Post-Pituitary for use "in neurasthenic conditions associated with high blood pressure." These preparations are sold in the form of tablets for oral administration. Each tablet of Hormotone is said to contain 1-10 grain desiccated thyroid and 1-20 grain of entire pituitary together with the hormones of the ovary and testes—the amounts and the form in which the latter are supposed to be present are not given. From this it is seen that the only definite information given the medical profession regarding the composition of Hormotone is that it is a weak thyroid and a still weaker pituitary preparation. Hormotone without Post-Pituitary is said to contain in each tablet 1/10 grain desiccated thyroid, and to "present" "hormone bearing extracts of thyroid, anterior pituitary, ovary, and testes." The Council declared these preparations inadmissible to New and Nonofficial Remedies, because: (1) Their composition is semisecret (2) The therapeutic claims are unwarranted (3) They are sold under names not descriptive of their composition, but suggestive of their indiscriminate use as "tonics" (4) In the light of our present knowledge, the routine administration of pluriglandular mixtures is irrational (*Jour. A.M.A.*, Aug. 16, 1919, p. 549).

Bromide and Acetanilid Compound.—The period of acceptance having expired for Granular Effervescent Bromide and Acetanilid Compound—Mulford, the Council on Pharmacy and Chemistry directed its omission from New and Nonofficial Remedies because an examination of the available evidence demonstrated that mixtures of this kind are inimical to rational medicine and the public. The use of mixtures of bromide and acetanilid in fixed proportions is irrational and prone to induce their indiscriminate use by the public—and this despite the perfectly frank declaration of the composition of this mixture by the manufacturer (*Rep. Coun. Pharm. Chem.* 1918, p. 58).

Pollen Antigen.—Pollen antigen—Lederle is a pollen extract which represents the pollen of plants blooming in spring and in fall. The Council on Pharmacy and Chemistry declared these preparations inadmissible to New and Nonofficial Remedies because there appeared no warrant for complex pollen preparations representing both spring and fall pollens. In consideration of the essentially experi-

mental status of the use of pollen preparations for the prevention and treatment of "hay-fever," such products should be as simple as possible. Hence pollen protein preparations prepared from the pollen of two or more species of plants are accepted for New and Nonofficial Remedies only if there is evidence that the given combination is rational (*Rep. Coun. Pharm. Chem.*, 1918, p. 65).

Cinchophen: Formerly Atophen.—The Chemical Foundation, Inc. which has purchased some 4,500 German-owned patents, many of them for synthetic drugs, proposes to continue the wise policy of the Federal Trade Commission by requiring that those who receive licenses for the use of patents for synthetic drugs must use a common designation for each drug selected by the foundation. Cinchophen has been selected as the designation for the substance introduced as atophan (also described in the U. S. Pharmacopoeia under "phenylcinchoninic acid"). In consideration of this action on the part of the Chemical Foundation and also because physicians found it difficult to use the pharmacopoeial name phenylcinchoninic acid, the Council on Pharmacy and Chemistry has recognized the contracted term cinchophen as the name for the drug introduced as atophan (*Jour. A.M.A.*, Aug. 9, 1919, p. 427).

Capell's Uroluetic Test.—A "Doctor" H. F. Matthews, representing the Capell Laboratory, Omaha, is demonstrating an asserted new test for syphilis—Capell's Uroluetic test. J. O. Cobb, M.D., Senior Surgeon in Charge U. S. Marine Hospital, Chicago, writes that in a demonstration of the test (which is to be applied to the urine of patients) "Doctor" Matthews was given the same specimen of urine in four different containers, and he read a different degree of reaction for each of them. Capell's Laboratory is apparently conducted by Dr. W. L. Capell. Some years ago, Dr. Capell was connected with a concern known as "Acneine Pharmacal Company." In 1917, W. L. Capell was connected with Capell, Cameron Co., Inc., which was selling "Capell's Uroluetic Test," "Capell's Treatment for Syphilis" and other remedies. The treatment for syphilis (mercarodin) is sold by Capell's Laboratory. It also sells Acneine, which apparently is the same product that was sold in 1906 under the name "Sambu-Co" by the Holtma-Stringer Co. of Omaha. While the Capell Laboratory still sells proprietaries, it appears to be featuring the "Uroluetic Test" at the present time. The test would be important if it was reliable; unfortunately its scientific value to the sufferer is negligible, compared with its economic value to the

exploiter. It is not so much a test for syphilis in the patient as of credulity in the doctor (*Jour. A.M.A.*, Aug. 23, 1919, p. 626).

The Uses of Yeast.—Yeast is one of those remedies that have undergone alternating cycles of use and of disuse; just at present it appears again to be in its ascendancy. Recently renewed attention has been called to its laxative qualities. The much debated question whether yeast can be used as a food, can be answered in the affirmative. However, in view of its laxative action, the amount of yeast which can be ingested is limited. Also, owing to its high nuclein content it is contraindicated in gout. As a source of water soluble growth promoting as well as antineuritic vitamin, yeast has become thoroughly established. However, as common foods contain this vitamin, there is little likelihood of its proving of therapeutic value, since it promotes growth only when stunting is due to lack of vitamins. Yeast has been used as an application in acne, for infected wounds and in leukorrhea. Recently the curative value of the oral administration of yeast in various cutaneous disorders has been reasserted (*Jour. A.M.A.*, Aug. 23, 1919, p. 628).

The Council on Pharmacy and Chemistry.—The profession should recognize that the most important factor in the clearing up of the advertising pages of medical journals has been the Council on Pharmacy and Chemistry of the American Medical Association. The Council has been criticized both by the manufacturer and the profession, but it has gone on doing the work for which it was created. Sometimes the practitioner feels that his clinical experience justifies the use of a preparation which the Council has not found reason to accept. While apparent clinical results may be misinterpreted, the carefully conducted examinations of the Council are likely to be definite and dependable. We are becoming more and more convinced of the unreliability of reports of clinical use by physicians. Practitioners should avail themselves of the Council's investigations by frequent reference to the reports of the Council. If they would keep on hand a copy of New and Nonofficial Remedies for ready reference and prescribe only of the new preparations those that have been accepted by the Council, they would aid materially in the establishment of a scientific and reliable therapeutics (*Jour. Kansas Med. Soc.*, Aug. 1919, p. 193).

S. S. S.—The state of Louisiana has a law prohibiting the sale of venereal disease remedies, except on the written prescription of a licensed physician.

In May of this year, the Bureau of Venereal Diseases of the Louisiana State Board of Health notified the druggists of Louisiana that the sale of "S. S. S." ("Swift's Syphilitic Specific" or "Swift's Sure Specific") would meet with the same law enforcement measures as were being waged against any venereal disease nostrum. The result of this notice was a letter sent to various drug stores of Louisiana by the sales manager of the Swift Specific Company declaring that "S. S. S." is not recommended or advertised as a venereal medicine. A few years ago, "S. S. S." was boldly heralded in newspaper advertisements as a "cure" for syphilis (*Jour. A.M.A.*, Aug. 30, 1919, p. 707).

THE RELATIONSHIP OF CONVULSIONS IN INFANCY AND CHILDHOOD TO EPILEPSY.

John Lovett Morse, M.D., draws the following conclusions:

1. Convulsions which are a manifestation of spasmophilia are not likely to eventuate in epilepsy.
2. Convulsions which occur in the course of whooping cough must always be regarded seriously, as they are quite likely to be followed by epilepsy later.
3. Single convulsions or a series of convulsions occurring at the onset of an acute disease or with an attack of acute indigestion are less likely to be followed by epilepsy than are repeated convulsions during a considerable period or repeated attacks suggesting petit mal.
4. Repeated attacks which would be classified as petit mal or which suggest it, are just as likely to eventuate in epilepsy as repeated attacks of general convulsions.
5. Nothing can be told from the nature of the early attacks as to the nature of the attacks when epilepsy develops later.
6. When an injury to the head has directly preceded the onset of the attacks or there is no apparent cause for the attacks, epilepsy is more probable than when there is an apparent cause, such as indigestion, for each attack.
7. The presence of an apparent cause for the attacks does not exclude epilepsy.
8. The longer the attacks have persisted, the more probable is the diagnosis of epilepsy.
9. General impressions, which cannot be explained, have a certain value in diagnosis.
10. There is no way to determine immediately when a baby or child has a convulsion or has had repeated convulsions or repeated attacks suggesting petit mal, whether it has epilepsy or whether it will develop it later.

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THE ADAPTATION OF WAR SURGERY TO CIVILIAN PRACTICE.

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Now that the Great War is over there are presented an opportunity and a duty as well for medical officers to adapt the lessons learned therein to the welfare of their own patients and of the civilian population at large. From that viewpoint I shall make some observations on fifteen month's service in France at Base Hospital No. 36, officially organized as the Detroit College of Medicine and Surgery Unit.

This paper is not pretended to be exhaustive but it will serve, I hope, to stimulate discussion in this meeting and to promote among us the science and art of surgery. In studying this subject and in drawing conclusions the fact of differences and even of contrasts in the character of injuries and diseases under war and peace conditions is understood and due allowances are made therefor.

My observations are founded on those cases that were received at the base referred to, on their conditions and histories brought from other base, evacuation or field hospitals and the front, and on such reports as came back after evacuation from the Vittel Center.

The period of residence varied from one day to several weeks but averaged about 12 days.

There were admitted to Base Hospital No. 36 during its active service 15, 097 patients. Of that number 13,564 were American soldiers, 1,464 were allied soldiers and sixty-nine were French civilians. The surgical cases were slightly in excess of the medical. The mortality of all was 143.4172 of the surgical patients were operated on .3879 cases came under my more immediate observation and treatment in Hospital B, an essentially surgical hospital, .23 of that number died, two from pneumonia,

one of which was not postoperative, and four others from extreme conditions of severe wounds and starvation in which they were received as prisoners from German hospitals. Consequently 18 would correctly represent the mortality of cases in that hospital or 2.155 per cent.

FRACTURES.

The total number of fractures treated in the unit was 1405, 199 of them were simple and were distributed as follows:

Astragalus	3
Femur	9
Fibula	44
Hand	16
Humerus	15
Jaw	9
Nasal Bone	8
Os Calcis	2
Patella	4
Rib	10
Radius	27
Tibia	39
Ulna	13

The 1206 compound fractures involved the following:

Clavicle	14
Cranium	39
Fibula	21
Femur	63
Foot	118
Hand	681
Humerus	56
Ilium	12
Jaw	47
Patella	5
Radius	51
Rib	20
Scapula	4
Tibia	58
Ulna	27

Like many other surgeons who went over with an experience in the treatment of fractures in civilian practice I had preconceived opinions, even a prejudice in favor of the operative treatment of many cases and was prepared to prosecute that line, but observation and a little experience soon disillusioned our minds of that idea.

When we went into service French and English medical officers had firmly established the use of splints for such cases. Since so large a proportion of the battle casualties were bone and joint injuries the simplest efficient treatment and transportability of those cases were a *sine qua non* in the war problem.

Accordingly as early as August 20, 1917, General Pershing appointed a Board of American Medical Officers under the Presidency of Colonel W. L. Keller M. C. to investigate the subject and report thereon. That Board recommended the use of the three types of wire ring traction and counter pressure fixation splints, Col. Keller's modified Thomas splint, the Jones "Cock-up" "Crab" wrist splint, the long interrupted Liston splint with adjustable foot piece, an anterior thigh and leg splint, Hodgen type, the Cabot posterior wire splint, the wire ladder splint material, light splint wood, and plaster of Paris bandages and Bradford frames.

The Board made it clear that it did not dictate the exact line of treatment to be employed in the Base Hospitals but expressed the belief that with such apparatus bone and joint casualties might be efficiently treated at the front and if necessary in base hospitals.

Accordingly in order to be prepared a supply of the various splints and frames was obtained from the Red Cross organization. It was a wise provision for among our first wounded were several fractures of the thigh, leg, arm and fore-arm, which were not only compound and comminuted but also infected with virulent organisms. That was the general character of all fracture cases throughout the war.

As has been insinuated above I had had no hesitancy in recent years to treat difficult fractures by open operative methods. I had even plated several open and infected fractures of the long bones successfully when the more conservative means at hand did not satisfy. The war however produced a different set of conditions. Consequently our treatment of fractures over there was based almost entirely on the use of suitable apparatus, including splints and frames.

All cases of suspected bone injury were examined roentgenologically, manipulated under anesthesia when necessary, rechecked by the X-ray and the open wounds cleaned, drained and dressed p. r. n.

Our records show only three cases of direct treatment. One enclosed patellar fracture was wired and did badly. One tibia with an oblique

fracture was plated after extension proved unsatisfactory. The wound became infected and the patient died of pneumonia. One metacarpal bone was fixed successfully with catgut. All other fractures were handled along the lines indicated and the results were generally satisfactory. Seventy-five amputations were done to save life or to effect more useful members. The list includes:

- 9 amputations of arm
- 9 of feet and toes
- 4 of forearm
- 36 of hands and fingers
- 1 of hip joint
- 8 of leg and
- 8 of thigh.

From my experience I do not discountenance the open operative treatment of selected fractures but do advise against its promiscuous adoption by inexperienced surgeons and recommend strongly the study and use of those methods which war surgery has demonstrated to be safe and effective.

Another element of importance in fracture cases secondary only to a firm union of the fragments is the utility of the member. I believe that the value and necessity of after treatment of fractures in civilian surgery has been often underestimated.

Military surgeons know that their professional services are not ended in such cases until function of joints and muscles has been fully restored or the disability repaired to the highest degree possible. A wounded soldier must be made efficient for Class A work or at least for B or C. Otherwise he becomes a liability of the government. In civilian practice corresponding results should be obtained and moreover in the shortest possible time.

In joint injuries also when bony ankylosis is inevitable the position of ankylosis is important for the patient and should be elected after a careful study of the case. In the army efficiency is the standard and the degree obtained marks the result as good or bad. In civil life the welfare of the patient is the standard of satisfactory or unsatisfactory professional services.

SKULL FRACTURES.

The war brought out some styles of skull fractures and brain injuries that are not displayed in civil life. Tangential extra-dural wounds and depressed extra-dural fractures are common to both. War surgery has taught or at any rate impressed upon us the value of

wound closure in head injuries and also the advantage of sucking or drying of head wounds.

The usual treatment of skull and brain wounds in France consisted of:

First, the excision of the wound of entrance and the removal of bone and splinters, foreign material and devitalized tissue.

Second, the closing of the wound with safety drainage. That technique can be adapted to civilian surgery in many cases.

Contrary to general opinion too it has been observed that shock has not been concomitant with head injuries in the same degree as in chest injuries or severe injuries of the extremities. The unconscious condition of patients who have severe skull injuries seems to obviate that kind of shock which has a psychic basis. Advantage of that fact may be taken to transport such a patient to a hospital or other suitable quarters for further appropriate treatment and recovery.

At Base Hospital No. 36 we had unusual facilities for using and demonstrating the value of fluoroscopy in the removal of foreign bodies as well in the examinations of all gun-shot wounds and fractures and from our experience this article would be remiss if it did not contain the recommendation for more fluoroscopic work in general surgery.

WOUNDS OF THE SOFT TISSUE.

Recent wounds of the soft tissue in military surgery differ from those in civil practice in their character and in their contamination with pathogenic microorganisms.

As a general rule the gun-shot wounds we observed, which were of the average, were characterized by comparatively minor injuries to the skin at the point of entrance and exit of the missiles but by great destruction and devitalization of all proximal subcutaneous tissues. In civil practice on the other hand there are met much contusion and laceration of the skin with less damage beneath.

The second striking feature of all wounds in France and Belgium was their contamination and potential infection with not only the ordinary pathogenic organisms but also the spore-bearing microbes of gas gangrene and tetanus.

Experience soon led to the rule to "Get the wounded man to the casualty clearing station as soon as possible." The study of those cases by French and English medical officers and notably by Carrel served to explain the development of the infection and to indicate subsequent successful treatment.

It was found first that antiseptics alone were of no use and second that nothing short of debridement or thorough excision of all badly damaged tissues and removal of foreign material would avail against serious complications. The packing of such wounds tightly with gauze was practiced for some time but found vicious and abandoned. Small perforation wounds could often be safely closed but the majority of them were lengthened and left open for ample drainage after debridement had been done and Carrel tubes with light packing inserted, which simplified the post-operative treatment. There have been differences in opinions expressed as to the efficacy of the Carrel-Dakin treatment and the use of other antiseptics and methods. I shall not discuss them in this paper, but will only state my opinion that debridement should not be delayed unnecessarily and that the Carrel-Dakin method has with us proven a valuable adjuvant in many bad cases.

If you asked me why wounds so different have been discussed at all I would reply, because of the surgical principles involved and the probability of meeting such cases in later practice.

WOUND CLOSURE.

Wound closure is not new but I venture to state has never been practiced here as much as it was in France. As I have remarked already small clean wounds were closed immediately with primary suture. If the operator hesitated to make a primary closure a delayed primary closure could be done within the following four or five days if the bacteriological report or the surgeon's experience warranted doing so. Later on as soon as the open wound under antiseptic treatment became bacteriologically clean a secondary closure could be made which would coapt the muscular, fascial and cutaneous structures, avoid more than a linear scar and save days or weeks for the patient and hasten his return to duty.

Wound closure is a technical procedure which is adaptable to many cases in civilian surgery. Convalescence can be markedly shortened, deformities from large scars avoided and deep burns treated with more satisfaction to both patient and surgeon.

If war surgery has taught anything it is that old wounds, and discharging sinuses can be cured scientifically like recent wounds. They have been the "bete noir" of every surgeon's practice. They have been neglected and relegated to the care of internes and orderlies to

the exclusion of so-called major surgery. We have returned from France with a healthy respect for those cases and with feelings of great satisfaction when we have discharged them cured. They require appropriate surgery and antisepsis to enable them to heal. Major surgeons should no longer condemn them.

SHOCK AND COLLAPSE.

With the exception of differences in exposure to cold, wet and hunger the same conditions of shock and collapse are found and their causes operate here as they did in France. We met shock frequently. The anemic variety predominated in Base Hospitals. The psychic form was more prevalent forward. In all there was lack of bodily heat and the power to produce it. Otherwise the treatment was contrasted. The psychic state demands rest while the anemic condition requires stimulation by warm fluids intravenously, subcutaneously, per rectum or by mouth. We saw several cases of it due to secondary hemorrhage and combated it best with intravenous transfusion of blood. Blood has been found far superior to other fluids since it offers not only volume but also the physiological advantages of serum and corpuscles.

We used the indirect method of administration exclusively, preventing coagulation by the citrate of soda solution in the container. It is recommended for use in civilian practice as a simplified procedure and one by which the amount of blood taken and given can be accurately determined.

Anesthesia was a great boon to the wounded soldier. His confidence in the medical officer was absolute and touching. Anesthesia contributed to that splendid relationship.

In Base Hospital No. 36 novocaine was used considerably in minor and dental surgery. It was used also in head injuries in the field hospitals. Chloroform was seldom used alone. Ether was the *sine qua non*.

In the summer of 1918 there was developed a rapid induction anesthesia based on the idea of the DePage mixture used in the French clinics. The formula was modified by and used under the supervision of Captain Arthur E. Guedel, who was in charge of anesthetics in the Vittet Center. It consisted of:

Ether	24 cc
Chloroform	1½ cc
Ethyl Chloride	5½ cc
Oil of Orange	1⅛ cc

That quantity, approximately one ounce, was the average dose and was administered on cotton within a rubber mask which encircled and covered the patient's face. The anesthetic state was produced in two minutes, could be continued from twelve to twenty minutes and the patient awakened in two minutes after the mask was removed. It was useful for debridements, foreign body removals and other short operations. With us it proved to be an effective and safe anesthetic even in the hands of nurses and operating room orderlies who administered it in several hundred cases. We therefore regarded it as safe and it was unquestionably a great time saver. Patients awakened from it quickly and without nausea and in some instances left the table without the aid of a stretcher.

I feel no hesitancy in recommending it for short operations in civilian surgery.

DISCUSSION.

DEAN LEWIS, Fort Sheridan, Ill.: I was very much interested in Dr. Walker's paper, because I think that there is one thing that has been demonstrated in this war and that is, that fractures can be treated by simple methods of continued flexion and Thomas splints and good results obtained. It has also been demonstrated that the Lane plate is a rather dangerous factor in the treatment of fractures, because really I believe there are fewer cases of non-union in war surgery than in the same number of cases treated in civil surgery, and that is due to the fact that no operation has been performed, such as the insertion of a Lane plate. I think the operative treatment of fractures should be reserved for those cases in which reduction cannot be made or maintained in any other way. That limits the operative treatment of fractures. I will speak later of the fractures which we see in the reconstruction period. The deformities which we see are those in fractures of the femur just below the lesser trochanter and fractures of the femur just above the condyles, a supracondylar fracture. In treating the cases continued traction with splints, such as the Thomas splint, is the best. In these fractures which we see in the construction work the Hodgkin splint is the most satisfactory means of treatment that I know of.

DR. G. C. HAFFORD, Albion: I want to say one word about the Thomas splint. I do not see why we have not used it before. It is so simple and covers so many multiple fractures of the thigh and lower limb. It is so simple and more comfortable to the patient and so much easier to apply than plaster-of-Paris. It is hard to obtain, however. I ordered some and waited six weeks before I got them. If you have a little idea of them, you can go into a carpenter shop and make one. In the course of War Surgery which I took at the University of Pennsylvania they put us four days in a factory making splints.

Dr. Walker spoke of transfusion of blood. I want to know if he made the agglutination test. I would also like to know if he had any experience with Dichloramine-T. I believe that Dichloramine-T has the place that is claimed by Carrel-Dakin solution. Carrel-Dakin has a great many disadvantages. Those who attended the Carrel-Dakin place in New York became quite enthusiastic about it. Afterwards when they attended the place where they used Dichloramine-T they lost a great deal of their enthusiasm. Not, that it is not what it is claimed to be, but there is a disadvantage in its use. First, it requires so much constant attention, so much time, and so much care. It has to be used in the proper variety of wounds, as Dr. McLean said yesterday. In wounds near blood vessels it will cause hemorrhage. In empyema cases where you have an infected process, it is liable to cause trouble. You have to change your Carrel-Dakin solution every hour in order to get the best results. You have the skin outside of the wound wet with the Carrel-Dakin solution. These are some of the things that we cannot handle as well in private practice as we could in the wards of the Army. With Dichloramine-T

you only change the dressing every 24 hours. You do not have it slopping over on the bed and you get just as good results.

The paraffin mesh that was spoken of yesterday can be used with Dichloramine-T in suppurating wounds and it is wonderful. It comes off easy. I think both of these solutions have their place. I think there is a definite use for each one and when we speak of Carrel-Dakin solution I think we ought not to forget Dichloramine-T and use it. I remember one case where a man was shot through the chest, the bullet coming out through the back and through the pericardium. Now that was a pretty hard case to handle but we determined to do the best we could. We closed up the wound and used Dichloramine-T and got a good result. In wounds of the hands and arms we did not have infection as with the other solution. With a spindle-point syringe we were able to get the Dichloramine-T down into the wounds pretty well, and in cases of this type we had no serious infection.

DR. H. E. RANDALL, Flint: In this way it seems to me that the war has taught us many things about surgery of the extremities. Heretofore we have paid greater attention to abdominal work. In this war the preservation of function of the soldier has been observed and I think we were taught a great many things; especially in industrial life these lessons can be applied.

I want to recommend to you Jones' little book on "Notes on Military Surgery." I think every surgeon should read it and know it.

The treatment of fractures in the Army was so simplified and the results were so wonderful that it is surprising to me in getting back that the splint is not used more in this country. The Thomas splint and the Jones splint I am sure you will all be using in a short time. They are so simple that I rather think in a few years we will find these splints in factories just the same as you now find oxygen tanks. The little book that was given out by the Red Cross people in France and sent to every officer in the A. E. F., I think should be published in this country by, say, the Journal of the American Medical Association, and sent to every member of the Association.

SOME PRACTICAL POINTS ABOUT EYE, EAR AND NOSE WORK.

CHAS. H. BAKER, M.D.

BAY CITY, MICH.

In preparing this paper I had in mind the fact that we are all given to doing things in a routine way, which, so far as it conserves our energies, is a good thing, except as it tends to get us into ruts and make us adhere to procedures which are not always the best possible.

It is a good rule that a person will do best to follow the practice and use the instrument with which he is familiar until convinced that there is a better plan or tool.

In the hope that the discussion of this paper will bring out some helpful suggestions, I am led to group a number of subjects which have no other necessary connection than that they occur in the day's work and we may not always be satisfied with the results we have been getting.

Chalazion, sty and blepharitis marginalis are allied diseases of microbic origin, the predisposing cause of which is an uncorrected error of refraction, a fact which is often overlooked.

Continued eyestrain from errors of refraction produces chronic congestion of the ocular and

periocular tissues, which finally weakens their resistance and encourages the invasion of microbic life. If uncorrected, the refractive error keeps up the congestion, thus preventing the cure of the inflammation which under appropriate treatment would otherwise subside.

Local treatment directed to the microbic origin will usually check these cases for a time, but, if at all severe, they are bound to recur and only refraction, done under complete mydriasis, and insistence on the continuous wearing of glasses will bring permanent cure.

With the increase in the wearing of glasses there seems to be a corresponding decrease in the number of severe cases of blepharitis that I see and I can attribute to no other cause. I will grant that the most of cases of uncorrected eye strain do not have blepharitis but neither does every patient with bad tonsils have arthritis.

GLAUCOMA.

Another disease which I see far less often is glaucoma and I am coming to think that the spread of good refraction work with the corresponding decrease in ciliary strain is the cause of its disappearance.

Is it not a fair presumption, in the absence of any generally accepted cause for glaucoma, that the constant congestion of the ciliary region from eyestrain gradually develops a low grade of inflammatory action sufficient to block the canal of Schlemm?

Occurring, as glaucoma does, during and after middle life is a natural sequence of a continuous ciliary strain on tissues which are normally losing their elasticity. Other factors undoubtedly contribute their share in causing glaucoma, just as in the case of blepharitis, but as the increase of good refracting is the only change in causes, which were not before in existence, that applies to practically all persons, it would seem a fair conclusion to draw.

Fashion rules in medicine as in clothes and certain drugs get an undeserved popularity which finally fails them and they are put in the discard.

ARGYROL.

A case in point I think is the use of argyrol by the men in general practice for almost every inflammatory disorder in the eye.

I have watched for good effects from its use and have about decided that it is just as useful and little more so than any other harmless salt when used in an isotonic solution, its value

being to wash away secretions as any of them will do.

Argyrol has this to recommend it, it is an excellent placebo, for it keeps the patient busy removing the stain and makes him think something is being done.

CORNEAL ULCER.

Corneal ulcer is very trying to one's patience and we are often tempted to apply chemical caustics in the hope of destroying the germs which are causing the disease.

These are apt to increase the irritation and instead of benefiting the patients will usually delay their recovery. One basic principle should govern in the management of corneal ulcer and that is to cause as little irritation as possible.

The single exception to the rule is the thorough use of the galvanocautery in all cases of pneumococcus ulcer, for no other treatment will give so good results, with so little resultant scar, as the free use of the electric cautery as early as possible.

DIONIN.

One of the best remedies to use in obstinate corneal ulcer is dionin, both for its analgesic quality and because the chemosis and oedema caused are much the same in effect as a Bier's hyperaemia. I give the patient a saturated solution for home use and dust the dry powder into the eye when treating him myself.

TRACHOMA.

One disease which in the days of the Lumber-jack used to be common in my vicinity was trachoma, and I have seen many good men fail in its treatment, falling far behind the results possible of attainment.

For many years I have cured clinically all my cases of trachoma on the average in the period of three weeks and have permanent cures in that time in a large percentage of them.

Under anesthesia, preferably general. I begin treatment by slitting the trachoma bodies open with a multiple knife and then expressing their contents with either Knapp's roller forceps or the forceps devised by Noyes, then scrub the raw surface well with a solution of bichloride, one to three hundred strong.

On the following day I use the solution in strength of one to six hundred and continue this strength daily to the end of the treatment.

If one has never used this strength he may fear too much reaction but the fact is that this is not very irritating and there is no caustic

action to be noticed. Following the first curettage cold compresses are useful for several hours but in subsequent treatments they do not need to be used longer than a few minutes. If in the course of the treatment any bluish gray granules are found buried below the conjunctival surface they are split and curetted.

When the patient is discharged he is told to return at stated times for inspection, the conjunctiva is well looked over for buried granules and if found these are at once put through the same course as before.

DACHRYOCYSTITIS.

In dachryocystitis removal of the tear sac or window resection through the nasal wall have been popular methods but not one in a hundred of these operations is necessary.

About 1905 Dr. Irwin of Ohio, presented a method of treatment based on the division of urethral stricture, and showed a flexible shaft knife for the division of the stricture.

His plan was suggested by the one which was used in the treatment of urethral stricture by stellate division and the frequent passing of large bougies to prevent reformation of the circular band.

Under cocaine anesthesia the lower canaliculus and the entrance to the lachrymal sac are incised with the canaliculus knife and the flexible shaft knife is then crowded through the stricture.

Withdrawing the knife through the stricture after rotating it 90 degrees it is turned again and pushed through the stricture; turned again and brought out.

Then the largest Theobald probe the bony wall will carry is passed and left in situ for three or four minutes. The probe will vary from twelve to twenty in number or two to four millimeters in diameter.

For the first three to six days the same sized probe is passed and after that, one size smaller until the end, which is usually within three weeks. The first week I probe daily, the next every other day, and the third according to indications. Occasional probing two to six months apart insures patency. Except in children and undersized adults I rarely get down to as small as No. 12 Bowman probe.

CATARACT.

Although, in an uncomplicated case, the operation of cataract is about the simplest and easiest operation we are called upon to perform I suppose the method of operation and care of

the patient afterwards will be discussed and fought over to the end of the chapter, as long in fact as men practice ocular surgery.

From the days of couching, down to those of the latest disciple of extraction in the capsule by the Smith method, the removal of cataract has been looked upon as the acme of surgical skill and many are the plans and legion the instruments devised for its successful accomplishment.

I believe the simplest operation with the fewest necessary instruments and the least subsequent manipulation of the patient will give the best results. Twenty-five years ago Dr. Hermann Knapp described the ideal operation both from the standpoint of ease of accomplishment, beauty and uniformity of result and percentage of recovery of useful vision.

Without iridectomy, with the incision encircling one-half of the cornea, and division of the capsule well back under the iris with the triangular capsule knife, the lens is delivered by pressure on the cornea with the spatula at a point half way from the apex to the uncut sclero-corneal junction directly towards the center of the globe. If the lens hangs back, its passage through the pupil can be assisted by traction on the pupillary margin with the blunt hook.

Any soft lens matter remaining in the pupil after delivery of the lens can be stroked out with the spatula applied over the cornea or scooped out with the sterile scoop.

The iris is commonly incarcerated in the angle of the wound at this stage and should be released with the probe.

Before the operation I wipe the entire conjunctiva with a solution of bichloride one part in six hundred, which causes no irritation that the patient will complain about. After operation the eye is dressed with a pad of absorbent cotton inclosed in a single thickness of gauze and held in place with adhesive.

Both eyes are bandaged and if no irritation or pain is complained of the dressings are not touched until the third day.

Since adopting the preliminary mopping of the conjunctiva with the strong bichloride, I have not had a single case of infection severe enough to give me a moment's uneasiness.

The patient is kept as quiet as possible the first twenty-four hours and after that is allowed to shift position from back to side at will.

When the eye is dressed on the third day the bandage is removed from the sound eye and not replaced. If there is no particular reason for

keeping the patient in bed he sits up on the fourth day and is dressed the next.

The room is not darkened more than enough to prevent glare and one could read in it at any time in the daytime. No solution except a little boric acid and cocaine is used in the eye after the operation unless iritis occurs, when atropine is added. Patients leave the hospital in from seven to sixteen days and because of the comparative freedom which they enjoy and absence of restraint they are contented and I have yet to see my first case of postoperative mania develop.

Since I adopted extraction without iridectomy as the operation of choice I lose vitreous less often and in smaller amounts, have better looking eyes with better average vision, and, in several eyes, have saved the vision which with an iridectomy I am convinced would have been lost.

MASTOID.

Doubtless most of you look upon the simple operation for mastoid suppuration as I do, as only a little more elaborate form of opening a boil.

I always start my mastoid operation with a liberal opening of the drum membrane and remove only the cells down to the tip and the antrum unless the case has gone on to extensive breaking down of the bone cells.

If temperature, pulse and general condition seem satisfactory I do not remove the dressings after the operation until the third day, when I usually pull out the iodoform gauze with which the wound is packed and insert a loose wick of the same to draw away whatever pus may form.

The wound is never irrigated but is wiped dry with absorbent cotton and if after granulation is well under way there is a sudden increase of discharge I wipe the entire wound with dichloramine-T in chlorazene which promptly alters and lessens the secretion. As soon as granulations begin to crowd into the wick opening and the pus to be more like mucus in appearance I leave out the wick and if, as usually happens, there is a diminution in the secretion and the wound looking better it is allowed to close. By this plan I have been able to materially shorten the time required in healing and do not have the deep disfiguring scars, with plastic operations needed to close them up, which I have seen some men have.

In closing I would like to mention a little wrinkle in the removal of tonsils which I have

used to control the hemorrhage on one side while I worked upon the other.

When one tonsil is out or dissected down ready for the snare with which I always complete their removal I wad up a bunch of absorbent cotton large enough to fill the fossa and crowd it in the space previously occupied by the tonsil and leave it there. The action of the palate muscles will hold it tightly without sutures or forceps and leave the mouth unobstructed for the balance of the operation.

It controls the hemorrhage almost as well as the clamp and is far less in the way.

DIAGNOSIS OF DISEASES CAUSING GASTRIC DISTURBANCES.*

A. O. HART, M.D.

Considered surgically, a reasonably exact diagnosis, especially in diseases of the upper abdomen, is of paramount importance, as operative treatment is too serious a procedure to be undertaken, except with such a degree of knowledge of the condition to be remedied, as to insure a reasonable certainty of relief or cure.

A great many patients, coming to the surgeon as well as to the physician, have the common complaint of distress, pain or other uncomfortable feeling in the stomach, "dyspepsia or indigestion," as they term it, and a history, when taken, shows that many of them have been treated for a more or less prolonged period of time and with little or no permanent benefit. They go from one doctor to another in an effort to obtain the desired relief. The application of modern scientific methods in diagnosis will clear up most of the cases but this is not by any means always done.

This is oftentimes due to the lack on the part of the investigator, of a comprehensive knowledge of the many and varied causes, which may operate to produce a very nearly common train of complaints, or, to the superficial observer, the same symptoms, especially in the upper abdomen.

Fundamentally we may consider chronic gastric disturbances to be caused mainly by about four different classes of disease; constitutional diseases, reflex or local diseases in other organs; local diseases of the stomach and various functional disorders or diseases.

Such constitutional diseases as diabetis, nephritis, tuberculosis, heart disease, the anemias, leukemia, syphilis and its resulting complica-

tions, (one of the most important of which is locomotor ataxia), arteriosclerosis, and many others, may be present as their most prominent symptom, "dyspepsia," in the various forms.

Reflex diseases, such as chronic gall bladder infection, diseases of the liver, chronic appendicitis, various diseases or infection of the lower bowel, contracture of the anal sphincter, abnormal conditions of the uterus or appendages and more rarely, stone in the kidney or ureter, may be the cause of stomach distress.

Local diseases of the stomach, as causes of "dyspepsia" are practically confined to ulcer and their results, and cancer with rare cases of local lesions due to syphilis, tuberculosis other infectious agents or to foreign bodies. Gastropexia or displaced stomach, has been considered in the past as a frequent cause of such troubles, but we now believe it to be more often a result rather than a cause.

Functional diseases, such as neurasthenia and allied disorders, habits deleterious to health, such as taking opium, cocaine or alcohol to excess, irregular meals, improper food and excess of all kinds oftentimes induce distressing stomach symptoms, without definite pathological lesions being present.

This is merely an outline of some of the causes of "dyspepsia," so-called, and points to the necessity of a thorough, accurate and careful examination, both physical and laboratory, preceded by a complete history from the beginning to the present. Graham, in one of his papers on differential diagnosis between gall bladder infections, ulcer of the stomach or duodenum and chronic appendicitis, has shown that from a carefully taken history alone, a very accurate diagnosis can be made in many of these cases. A few of the important points which he emphasizes are the exact relation of the pain to the taking of food, length of attacks, intervals between, exciting causes, and the methods of relief. Inquiry into the condition of previous health is very important and may point very directly to the cause of present trouble. Inquiry into the habits and the bringing out of every possible fact which may have a bearing on the case is useful.

Complete physical examination, to be followed by a laboratory analysis of blood, urine, gastric contents, feces and sputa, if any, should precede the X-ray examination which is of greatest value when taken in connection with all the other facts brought out previously. I have gone through the history of 200 cases which my as-

*Read before Clinton County Medical Society, Aug. 7, 1919.

sociates and I have examined and treated with-
in the past two years and in which the chief
complaint of the patient was gastric distress
or pain. I have taken these cases just as they
came from the cross file but have not included
any cases in which the diagnosis was not con-
firmed either by operation, treatment and pro-
longed observation or post-mortem.

I find as follows: Sixty were due to chronic
appendicitis, 41 to gall bladder or duct infec-
tion, 2 to chronic pancreatitis, 51 ulcer of the
stomach or duodenum and resulting conditions,
2 to cirrhosis of the liver, 4 chronic nephritis,
5 diabetis, 4 tuberculosis of the lungs, 6 cancer
of the stomach or liver, 6 to anemia, 5 to heart
disease, 2 locomotor ataxia, 2 to contraction of
sphincter and resulting constipation, 1 to stone
in the ureter, 3 to adhesions from former oper-
ations, 6 to neurasthenia, or were the result of
improper habits or dissipation. There is no
doubt that upon further investigation I could
have found other cases wherein the cause of
stomach symptoms was due to some of the dis-
eases enumerated.

All of the cases of chronic appendicitis, in-
fection of gall bladder or duct, 50 per cent. of
the ulcer cases, and many of the other cases
were operated. All the cancer cases were either
operated or were later autopsied. A consider-
able number of the cases, however, could only
have the diagnosis confirmed by prolonged ob-
servation and by the results of treatment and,
in those proving fatal, a post-mortem.

In some such as the tubercular cases, the
diagnosis was confirmed by finding tubercle
bacilli in the sputa. My conclusions from a
study of the various writers along this line,
various reports, and our own experience, is
that there is in nearly every case of so-called
dyspepsia, a definite pathological lesion, and
that no physician or surgeon should be satisfied
until every effort has been made to find out in
each and every case what that lesion is, for it
is only by so doing that permanent benefit can
be obtained by medical and especially by sur-
gical treatment. Of course it is understood that
there is always a certain percentage of cases of
this character in which the most thorough ex-
amination, by all methods known at present,
will not reveal with any certainty the under-
lying pathology or cause, which still remains ob-
scure. In such cases the treatment, if medical,
must remain symptomatic or empirical and if
surgical be exploratory in nature.

The various methods used in the diagnosis of

these diseases are well known, and are in con-
stant use among physicians and surgeons, and
it is unnecessary at this time to dwell upon
them, and while constantly improving, their
value and also their limitations are obvious. I
desire again to emphasize the necessity in all
cases where a diagnosis is to be made, that a
full knowledge of the various and manifold
cases of stomach symptoms shall be kept in
mind in order that nothing shall be overlooked
in arriving at an accurate decision as to the
underlying cause in as many cases as possible.
Diagnosis must come before treatment especial-
ly surgical, and it is only by so doing that it is
possible to plan a rational and therefore suc-
cessful treatment in the great majority of cases
of this character.

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BRAIN INJURIES.*

LEO DRETZKA, M.D.
DETROIT, MICH.

From the history of medicine we find that
skull surgery dates back to prehistoric times;
we gather also that good results were obtained
in trephining even at that early period. And
after a hasty review of the progress made in
cranial surgery from that ancient time up to
our present day, one is apt to draw the conclu-
sion that the advance made does not coincide
with the length of time elapsed; and especially
does this seem true when we realize that we are
still viewing the question of operative interfe-
rence in certain classes of brain injuries with an
attitude of indecision. But the progress made
during the period of the world war alone, in
diagnosis and treatment, with a resultant low-
ered mortality rate, is sufficient to offset any
discouragement we may feel over the seeming
lack of practical and constructive knowledge
gained during certain periods of the past.

During the years of 1915-16 and 17 a total
of 398 cases of skull injuries came under my
observation, and I treated 210 cases out of this
number; the mortality rate was 30 per cent.;
132 of the cases required operative interference;

*Read before the Muskegon County Medical Society, August
8, 1919.

and from 70 to 80 of the fractures of the vault involved the base as well.

Injuries of the brain, more than any other traumatic condition, require the immediate as well as the constant attention of the surgeon.

It is possible to have a fracture of the skull without an injury to the brain, and vice versa, but an injury severe enough to fracture the cranium usually does some damage to the brain itself. Certain general symptoms occur, no matter what the injury, as impairment of consciousness, vertigo, nausea, vomiting and headache.

Fractures of the vault are due, as a rule, to a direct injury, such as a blow on the head, a fall, a stab, or a bullet. In most instances the skull will be depressed at the site of injury and the underlying brain impaired. If the fracture cannot be palpated through an open wound the scalp should be incised. The most constant general symptom is loss of consciousness; the focal symptoms depend upon the part of the brain injured. If the motor area be involved, convulsions or paralysis of the opposite side of the body will follow. A frontal lobe injury does not exhibit distinct symptoms.

A case in point is that of a man admitted to the hospital in October, 1915, who had had his head badly smashed against a telegraph pole while he was looking over the side of a speeding motorcar. The examination showed him to be unconscious and bleeding freely from an extensive laceration over the left eyebrow; there was a depressed fracture in the left frontal parietal region, extending through the orbit, and the eyeball was lacerated; temperature was 97, pulse 84. Immediate operation followed, making an elliptical incision on the left side, over depression, and removing a small triangular fragment of bone; the frontal lobe was severely lacerated, allowing about a tablespoonful of brain substance to escape; bleeding vessels were ligated; depressed bones elevated, and wound closed. In reacting from the operation the patient was restless and irrational; his pulse rose to 104, his temperature to 101; but within six days the patient had regained consciousness, and his injured eyeball was enucleated eight days later. At the end of four weeks he was discharged from the hospital, and he reported to me one year later in good condition.

If the parietal area is affected, symptoms will be manifest on the opposite side of the body, and the occipital lobes will exhibit a hemianopsia on the other side. Fractures of the base may involve the vault as well, and vice versa. The accompanying symptoms are bleeding from the mouth, nose and ears; respiration may be stertorous; pulse slow and weak; temperature is

usually elevated—in critical cases it may reach 108; the pupillary reaction is an important symptom, the pupil is frequently dilated on the side of the injury; there may be bulging of the eyes, often one more pronounced than the other, and subcutaneous ecchymosis. The blood pressure is likely to be normal at the first reading, so only the second and third readings are of importance. Spinal puncture reveals blood in basal fractures, and may be used as a means to lessen the pressure. Choked disc is present when intra-cranial pressure exists, and is an index to increasing pressure. In nearly all cases some of the cranial nerves will be involved; and of these the optic, sixth, seventh and eighth cranial nerves are most commonly the seat of injury.

DIFFERENTIAL DIAGNOSIS.

In industrial and hospital practise, cases of unconsciousness without a distinct history are common. It is necessary, therefore, to distinguish the unconsciousness of brain injury from a comatose condition, which may be the result of either alcoholic intoxication, apoplexy, epilepsy, uremia, hysteria, diabetes, or opium poisoning. The alcoholic breath has been the cause of many blunders in diagnosis. A patient suffering from any one of the above conditions may have indulged in alcohol, or received it as a stimulant before arriving at the hospital. There are many instances of patients being discharged by examining surgeons as alcoholics, or locked in police stations as drunks, only to be discovered several hours later suffering with a fractured skull.

We are now confronted with the problem of treatment and the question of whether or not an operation is necessary. Every case of brain injury requiring operation, and every suspected case of brain injury, should be subjected to repeated examination, and if signs of increased intra-cranial pressure should appear, then an operation should be performed immediately. Operative interference is imperative in all cases of depressed fractures; of compound and simple fractures, with evident symptoms of hemorrhage or intra-cranial pressure; and basal fractures with symptoms of increasing pressure.

There are two periods when operative interference is contra-indicated: first, when there is severe shock, and second, when the medullary collapse is inevitable. If at all possible, every case of skull injury should be X-rayed, as

unsuspected fracture lines are then often determined. Apparently trivial cases, without immediate symptoms, disclose linear or depressed fractures, or fractures of the inner table only. If the depression is definitely localized and not extensive, a vertical incision will suffice, and the operative hemastasis will be simple, and the attachment of the temporal muscle to the parietal crest is left intact.

When it is desired to expose a large area of the brain, an osteoplastic flap, with pericranium and scalp intact, is desirable. A constant stream of warm saline solution will keep the operative field clean and washes away clots and fragments of bone, and aids in locating the source of hemorrhage. The most frequent source of hemorrhage is, of course, from the middle meningeal artery, or its anterior or posterior branch. If the dura is contused the edges are excised.

The bone edges are treated in like manner; foreign bodies imbedded in brain tissue, and accessible, should be removed by direct extraction, or with the aid of a magnet, provided, of course, that this can be done without severe injury to the tissue; the tract or wound is mechanically cleansed, and is then ready for closure.

Dr. Cushing advocates the use of a rubber catheter, attached to a suction apparatus, for cleansing out a tract and removing fragments and devitalized brain tissue; and the injection of dichloramine-T where the bacteriological examination indicates.

In the event of blood welling up into the operative field from some part which cannot be reached with a ligature, the area is packed with gauze, which may be removed within twenty-four hours; this condition is frequent in fractures which involve the vault and base. If the dura is intact and there is no pulsation, it is incised to relieve the sub-dural pressure and, if possible, to determine its cause. No drainage should be inserted in the brain, unless we are concerned with an abscess cavity.

When we have the final reports and statistics on brain injuries, and their treatment, covering the period of the world war, they will, I believe, undoubtedly impress upon us, amongst other things, the importance of early operative interference in cases of brain injuries.

EPIDEMIC CEREBROSPINAL MENINGITIS AT CAMP JACKSON, S. C.

FRED. W. BAESLACK, M.D.
DETROIT, MICH.

The first case of cerebrospinal meningitis at Camp Jackson, S. C., was diagnosed Nov. 15, 1917. The disease assumed the character of an epidemic during December, and January and February of the year following.

PREDISPOSING FACTORS.

The rapid spread of this disease through the camp was due to the following predisposing circumstances:

1. The unusual cold weather with sudden, marked temperature changes during the later fall and winter of 1917-18, to which the majority of men were not accustomed, and which caused a widespread nasopharyngeal catarrh, bronchitis, mumps and measles.

Tables 1, 2, 3 and 4 give the weather conditions during the months of November, December, 1917, and January and February of the year following.

2. The general condition of the camp, which was not completed until the end of the winter. The facilities for heating the buildings were especially retarded. To keep warm, the men would stay indoors, crowding the barracks, thus coming into closer contact with those suffering from nasopharyngeal inflammations.

The majority of the barracks rooms were heated by one large furnace, the size of a hot air furnace used for heating houses. Usually two such furnaces were installed in the center of the two rooms on the ground floor. As there were no pipes for the distribution of the heat throughout the building, during spells of cold weather the men would congregate around these furnaces, thus offering every advantage for the spread of respiratory infections.

3. The base hospital was not completed, and while every attempt was made to accommodate all, the problem became more involved, because white and negro patients had to be kept separate.

4. The laboratory facilities were meager. The function of the base hospital laboratory as a public health laboratory for the entire camp had not been taken into consideration in the plans of the hospital. This was corrected during the later part of January both as regards space and equipment.

5. The transfer of troops from one can-

tonment to another. By this means new foci of infection were introduced, and the problem of coping with the condition present complicated. The following cases are illustrative of this:

- (a). Nov. 18, 1917. D. S., Pvt., Co. 21, 156 D. B. from Camp Pike, Little Rock, Ark., taken from train directly to hospital, diag. C. S. M.
- (b). F. M., Pvt., Co. 23, 156 D. B. from Camp Pike, Little Rock, Ark., arrived at Camp Jackson Nov. 17, 1917; admitted to Base Hosp., C. S. M. No. 21, 1917.
- (c). P. B., Pvt., Co. 15, 156 D. B. from Camp Gordon, Atlanta, arrived at Camp Jackson, S. C., Nov. 5, 1917. Admitted to Base Hosp. as C. S. M. Suspect. Nov. 8, 1917; diagnosis pos. C. S. M., Nov. 10, 1917.
- (d). W. F. F., Pvt., Co. 21, 156 D. B. from Camp Pike, Little Rock, Ark., arrived at Camp Jackson, S. C., Dec. 1, 1917; diagnosis C. S. M.

BACTERIOLOGY.

While it is highly probable that local inflammation of the nasopharynx may be caused by the meningococcus before its invasion becomes general, its exact etiologic significance in relation to the inflammation of the respiratory passages is still doubtful, for its presence on the inflamed naso-pharyngeal membrane may be accidental. The absence of marked inflammation of the naso-pharyngeal membranes in some cases of meningitis throughout the entire course of the disease further support this view. The assumption that the meningococcus reaches the meninges from the nasopharynx by way of the cribriform plate of the ethmoid is also questionable in view of the findings of Westenhoffer, Von Lingelsheim and Meyer, which indicate that if direct extension does occur, its course is through the sphenoid bones, the sinuses of which were found inflamed in 34 per cent. of cases examined.

That the meningococcus produces a local inflammation before invading the general system may be assumed until further data are available. From the nasopharynx the organism invades the blood current, either directly, causing a meningococcus bacteremia with secondary localization in the meninges, or by a direct infection through the lymphatics, as pointed out by Westenhoffer, who observed the constant enlargement of the cervical lymph glands.

That this disease may at times be a generalized infection has been shown by Solomon, Moller, Bettencourt, Franc, and Elsner, who have in isolated instances succeeded in culturing the meningococcus from the blood. Elsner succeeded in isolating the organism in 25 per cent.

of cases. Routine blood cultures on twenty-three patients, meningitis suspects, taken on admission to the base hospital, Camp Jackson, S. C., gave positive cultures in 36.6 per cent.¹ As pointed out these cultures were obtained in many instances before the diagnosis of cerebrospinal meningitis was established and before meningeal symptoms were noticeable.

All the strains of meningococci isolated either from the nasopharynx spinal fluid, blood and secondary foci were typed. In all instances were we dealing with a meningococcus of the regular type.

TABLE I.

Weather conditions during the month of November, 1917, as given by:

U. S. Department of Agriculture
Weather Bureau.
C. F. Marvin, Chief.

Date	Highest	Temperature Lowest	Mean	Precipitation in inches and hundredths	Character of day
1	58	38	48	.00	Clear
2	55	38	46	.00	Clear
3	57	32	44	.00	Clear
4	60	39	50	.00	Clear
5	60	36	48	.00	Clear
6	67	34	50	.00	Clear
7	75	43	59	.00	Clear
8	67	44	56	.00	Clear
9	71	40	56	.00	Clear
10	71	42	56	.00	Clear
11	73	43	58	.00	Clear
12	71	46	58	T.	Pt. Cloudy
13	63	51	57	.52	Cloudy
14	55	49	52	.02	Cloudy
15	64	45	54	.00	Clear
16	62	44	53	.00	Pt. Cloudy
17	66	36	51	.00	Clear
18	71	45	58	.00	Clear
19	73	47	60	.00	Clear
20	54	46	50	.08	Cloudy
21	68	49	58	.00	Clear
22	67	49	58	.00	Clear
23	54	38	46	.00	Pt. Cloudy
24	45	32	38	.00	Pt. Cloudy
25	46	26	36	.00	Clear
26	50	26	38	.00	Clear
27	55	34	44	.00	Clear
28	62	39	50	.00	Cloudy
29	65	52	58	.21	Cloudy
30	55	48	52	.09	Cloudy

WEATHER.

Number of clear days, 20; partly cloudy, 4; cloudy, 6; on which 0.01 inch, or more, of precipitation occurred, 5.
Mean relative humidity; 8 a. m., 81.7 per cent.; 8 p. m., 36.6 per cent.; monthly, 59.2 per cent.

Hail 13
Sleet 0
Fog, slight 15, 30
Fog, dense 29, 30
Thunderstorms 13
Frost, light 2
Frost, heavy 1
Frost, killing 3

1. Cultivation of the meningococcus intracellularis (Weichselbaum) from the blood. Baeslack, F. W.; Bunce, A. H.; Brunelle, G. C.; Fleming, J. S.; Klugh, G. F.; McLean, E. H.; Solomon, A. V. Jour. Am. Med. Asso., 1918, 70, 684.

TABLE II.

Weather conditions during the month of December, 1917, as given by:
U. S. Department of Agriculture
Weather Bureau.
O. F. Marvin, Chief.

Date	Temperature			Precipitation in inches and hundredths	Character of day
	Highest	Lowest	Mean		
1	65	45	55	.00	Clear
2	70	43	56	.00	Clear
3	72	51	62	.00	Pt. Cloudy
4	71	56	64	.17	Pt. Cloudy
5	59	44	52	.01	Cloudy
6	45	38	42	T.	Cloudy
7	52	31	42	.00	Clear
8	61	30	46	.27	Pt. Cloudy
9	31	20	26	.00	Clear
10	32	22	27	.00	Clear
11	35	19	27	.03	Pt. Cloudy
12	31	25	28	.01	Cloudy
13	28	24	26	.02	Cloudy
14	38	20	29	.00	Pt. Cloudy
15	34	22	28	.00	Clear
16	30	25	28	.02	Cloudy
17	38	26	32	.00	Clear
18	34	31	32	.00	Cloudy
19	44	33	38	.00	Cloudy
20	49	35	42	.00	Pt. Cloudy
21	61	30	46	.00	Clear
22	52	34	43	.00	Pt. Cloudy
23	48	30	39	.00	Clear
24	61	39	45	.00	Clear
25	64	40	52	.23	Cloudy
26	53	51	42	.36	Cloudy
27	34	25	30	.00	Cloudy
28	50	30	40	.00	Clear
29	39	18	28	.04	Cloudy
30	22	8	15	.00	Clear
31	21	12	16	.08	Cloudy

WEATHER.

Number of clear days 12; partly cloudy, 7; cloudy, 12; on which 0.01 inch, or more, of precipitation occurred, 11.
Mean relative humidity: 8 a. m., 80.7 per cent.; 8 p. m., 64.5 per cent.; monthly, 72.6 per cent.

Sleet	11, 12, 13
Fog, slight	14
Fog, dense	1
Thunderstorms	0
Frost, light	—
Frost, heavy	—
Frost, killing	—

TABLE III.

Weather conditions during the month of January, 1918, as given by:
U. S. Department of Agriculture
Weather Bureau.
C. F. Marvin, Chief.

Date	Temperature			Precipitation in inches and hundredths	Character of day
	Highest	Lowest	Mean		
1	29	6	18	.00	Clear
2	34	26	30	.07	Cloudy
3	30	15	22	.00	Clear
4	38	13	26	.00	Pt. Cloudy
5	52	31	42	.00	Cloudy
6	54	42	48	.19	Cloudy
7	53	31	42	.00	Clear
8	42	26	34	.00	Clear
9	44	30	37	T.	Cloudy
10	50	25	38	.00	Clear
11	64	30	47	.41	Cloudy
12	51	15	33	.00	Clear
13	31	10	20	.00	Clear
14	52	22	37	.25	Pt. Cloudy
15	57	34	46	.23	Clear
16	51	30	40	.00	Cloudy
17	51	31	41	.00	Clear
18	43	28	36	.00	Clear

Date	Temperature		Mean	Precipitation in inches and hundredths	Character of day
	Highest	Lowest			
19	41	24	32	.00	Clear
20	40	31	36	.08	Cloudy
21	35	26	30	.37	Cloudy
22	39	27	33	T.	Cloudy
23	44	25	34	.00	Clear
24	49	27	38	.00	Clear
25	63	39	51	.00	Clear
26	65	41	53	.00	Pt. Cloudy
27	71	57	64	.00	Cloudy
28	63	39	51	.34	Cloudy
29	54	39	46	.03	Cloudy
30	47	35	41	.17	Cloudy
31	42	33	38	.02	Cloudy

WEATHER.

Number of clear days, 14; partly cloudy, 3; cloudy, 14; on which 0.01 inch, or more, of precipitation occurred, 11.
Mean relative humidity: 8 a. m., 78.2 per cent.; 8 p. m., 66.2 per cent.; monthly 72.2 per cent.

Hail	0
Sleet	20
Fog, slight	28, 29
Fog, dense	0
Thunderstorms	11
Frost, light	—
Frost, heavy	—
Frost, killing	—

TABLE IV.

Weather conditions during the month of February, 1918, as given by:
U. S. Department of Agriculture
Weather Bureau.
C. F. Marvin, Chief.

Date	Temperature			Precipitation in inches and hundredths	Character of day
	Highest	Lowest	Mean		
1	40	35	38	T.	Cloudy
2	39	36	38	.56	Cloudy
3	57	39	48	.26	Cloudy
4	45	31	38	.00	Clear
5	41	25	33	.00	Pt. Cloudy
6	58	25	42	.00	Clear
7	67	48	58	.00	Pt. Cloudy
8	74	45	60	.00	Clear
9	73	52	62	.03	Pt. Cloudy
10	69	55	62	.00	Clear
11	74	43	58	.00	Clear
12	73	50	62	.22	Cloudy
13	74	60	67	.00	Pt. Cloudy
14	76	53	64	T.	Pt. Cloudy
15	77	62	70	.00	Pt. Cloudy
16	63	43	53	.21	Cloudy
17	59	47	53	.02	Cloudy
18	49	38	44	.06	Cloudy
19	72	44	58	.01	Cloudy
20	67	52	60	.05	Cloudy
21	52	38	45	.00	Pt. Cloudy
22	55	36	46	T.	Cloudy
23	58	36	47	.00	Clear
24	70	43	56	.00	Pt. Cloudy
25	74	58	66	.00	Pt. Cloudy
26	70	51	60	.00	Clear
27	72	39	56	.00	Clear
28	81	51	66	.00	Clear

WEATHER.

Number of clear days, 9; partly cloudy, 9; cloudy, 10; on which 0.01 inch, or more, of precipitation occurred, 9.
Mean relative humidity: 8 a. m., 79.4 per cent.; 8 p. m., 57.6 per cent.; monthly, 68.5 per cent.

Sleet	0
Fog, light	1, 8, 12, 27, 28
Fog, dense	0
Thunderstorms	16
Frost, light	—
Frost, heavy	—
Frost, killing	—

While generally cerebrospinal meningitis is diagnosed from the symptoms resulting from meningeal irritation, there is observable in many cases a premeningeal stage of the disease which varies in time from several days to a few hours, and is characterized by general septic symptoms, as chills, fever, malaise, lack of appetite, indefinite pains in the joints and muscles. The headache observed in this stage is probably due to increased amounts of cerebrospinal fluid which on lumbar puncture is found clear, containing no organisms or only a few free meningococci which may be explained by the general sepsis. The cytology of the fluid may be negative or may show a slight increase in lymphocytes. The Globulin test may be negative or faintly positive. Fehling's solution is reduced. The essential impression gained from the examination of the fluid during this stage of the disease is not that of meningitis, but rather that due to a general toxemia.

STAGES OF INVOLVEMENT.

The stage of meningeal involvement has been variously subdivided according to severity of the disease, its symptom complex and probable prognosis.

This general bacteremia leads to widely scattered foci of infection in the body, of which that of the meninges is the most commonly observed. The following cases are illustrative of the metastatic involvement of other regions of the body than the meninges:

- 1. Pvt. J. M. F., aged 25, admitted Jan. 5, 1918, was in poor condition; there were marked tremor, and cyanosis of the lips and finger tips. The provisional diagnosis was bronchitis following measles, Jan. 11; broncho-pneumonia developed. The patient died Jan. 15. Cultures of pus found at necropsy, in the sphenoid sinus, gave a gram-negative diplococcus, which was identified as a meningococcus of the regular type.
- 2. S. R., Pvt., aged 23, admitted Nov. 15, 1918, complained of cold and pain in chest, and pain in the eyes and back. The provisional diagnosis was measles. Nov. 24, bronchitis developed in the left side. Nov. 28, there was pleurisy on the left side. Next day the diagnosis of broncho-pneumonia was made. Jan. 15, 1918, an intercostal incision for left emphysema was made and a large amount of slightly cloudy serous fluid removed. A meningococcus of the regular type was isolated from it.
- 3. Chas., Pvt., 156 D. B., Co. 19, was admitted as meningitis suspect. One lumbar puncture made, examination of spinal fluid negative. Patient developed mumps, and was transferred from wards for meningitis cases to that for mumps. To determine whether patient had had meningococcic infection, sample of blood was obtained.

The serum from this blood agglutinated a strain of meningococcus of the regular type up to 1:320 dilution.

4. Miss M., Nurse, reported on sick list, diagnosis articular rheumatism, which did not yield to usual treatment. On suggestion of the Chief of the Laboratory, a blood culture was taken, disclosing a gram-negative diplococcus, which was identified as a meningococcus of the regular type. Patient was put on antimeningococcic serum treatment, receiving it intravenously, and recovered promptly.

These instances clearly show that the meningococcus is distributed by the blood stream, giving rise to lesions wherever conditions are favorable, without necessarily involving the meninges. To the same mechanism of distribution may be credited the complications and sequellae incident to this disease, as involvement of the joints, pleurisy, pericarditis, ophthalmitis, etc.

COMPLICATIONS.

The thirty-one autopsies performed during the height of the epidemic gave further evidence of the generalized nature of the meningococcus infection. The following gross lesions were recorded in the number of cases indicated:

Petechiae	11
Purpura	10
Pleurisy	8
Pneumonia, Lobar	2
Pneumonia, Broncho	8
Congestion of the lung	7
Hypertrophy of heart	1
Dilation of heart	1
Endocarditis, vegetative	1
Pericarditis, fibropurulent	4
Pericarditis, seropurulent	4
Spleen, enlarged	22
Kidneys, cloudy swelling	10
Kidneys, congestion	10
Purulent exudate in vertex	7
Purulent exudate in base	3
Purulent exudate in vertex and base ..	16
Purulent exudate in parietal region	5

While diffuse purpuric spots are absent on the serous surfaces, petechiae were frequently observed on these membranes of the pericardium and peritoneum. It may be assumed that cerebrospinal meningitis is in more instances than has been supposed a bacteremia, co-existent with or followed by the formation of metastatic foci due to the distribution of the meningococcus by the blood stream.

This assumption is based on the following considerations:

- 1. The demonstration of the meningococcus in blood cultures in a larger percentage of cases than heretofore.
- 2. The presence of a distinct premeningeal stage of the disease.

3. The occurrence of lesions due to the meningococcus in parts other than the meninges.

4. The autopsy findings, with special reference to the occurrence of petechiae and purpuric spots.

Based on these observations the intravenous serum therapy in large doses was recommended by us to Major W. W. Herrick the Chief of the Medical Service.² The agglutinating titer of most antimeningococcic sera lies between 1:800 to 1:1000. It will be seen that fairly large quantities of serum must be administered intravenously to have the therapeutic agent in sufficient concentration to act upon the meningococci present in the blood stream.

STATISTICS.

Two hundred and fourteen meningitis patients from 97 organizations were admitted to the base hospital. Out of this number 65 died, 88 were returned to duty shortly after dismissal from the hospital, 57 requiring additional time for complete recuperation; 4 were discharged; 2 cases recurred.

Twenty-eight of the patients were city residents before entry into the National Army, 159 were rural, the residence of 27 could not be determined.

PROPHYLAXIS.

The prophylactic measures instituted consisted of:

(a) The isolation of those complaining of symptoms observed in the premeningeal stage of the disease.

(b) The placing of the organization in quarantine.

(c) Preventing the men from congregating in the barracks.

(d) Alternating the position of the cots.

(e) Culturing the quarantined personnel 3 or more times at 5 day intervals, or until no more carriers could be found.

(f) Culturing all patients on admission to the hospital and segregating those found to be carriers in the hospital.

(g) The culturing of all applying for leave of absence from the camp.

(h) The isolation and treatment of the carriers in the carrier camp.

The vigilance exercised by the regimental surgeons in isolating those complaining of headache, malaise, chill, indefinite pains in muscles and joints combined with inflammation

of the respiratory tract, made possible the prompt treatment of meningitis patients, while still in the early stages of the disease.

The extent of the quarantine was determined by the number of men the suspected case had come into contact with, just previous to his illness. Depending on this a single squad room, or barrack or the entire organization would be placed under the quarantine.

The infecting organism of cerebrospinal meningitis gains access to the respiratory passages by the inhalation of the fine spray droplets produced in the act of sneezing and coughing. The large number of men suffering from coryza, pharyngitis and bronchitis would aid materially in spreading the meningococcus infection in crowded rooms, provided contacts and carriers were among them. Hence the men were kept out of doors as much as possible, and the seating in the Mess rooms was so arranged that the men occupied alternate seats. Crowding the barracks wherever it occurred was relieved, and the cots so arranged that no two men slept side by side with the heads in the same direction, but alternating.

BACTERIAL DIAGNOSIS.

As soon as diagnosis was established by the laboratory, name, rank and organization were reported to the office of the Division Surgeon. All contacts were quarantined and arrangements made for the taking of cultures. A list of those quarantined, made in triplicate, was furnished the culturing team, consisting of three physicians detailed to this duty by the Division Surgeon.

This team would obtain the necessary number of blood-agar plates, pack them into a fireless cooker and visit the organization for culturing. The plates were numbered and the corresponding number entered next to the name on the rosters prepared. The cultures and rosters were delivered at the laboratory, and on conclusion of the examination those found to be carriers were entered as positive on the lists, one of which was forwarded to the office of the Division Surgeon, one to the organization, the third being retained at the office of the laboratory for record.

The cultures were incubated for 18-24 hours, examined and transplants of suspicious colonies made by three members of the Laboratory staff. Agglutination tests were made on all suspicious cultures. The media used consisted of laked blood, 1 per cent. glucose-agar.

At first the West tube was used for taking

2. For a discussion of the intravenous serum treatment of cerebrospinal meningitis and the results obtained, the reader is referred to the article by W. W. Herrick, Major, M. R. C. The intravenous serum treatment of Epidemic Cerebrospinal Meningitis. Arch. Int. Med. Vol. XXI, 1918, p. 541.

cultures; this, however, was found impracticable owing to the large number of cultures which had to be taken daily and to the time required for cleaning, refitting, and sterilizing these tubes. Our next method of taking cultures was by means of sterilized wooden applicators. A small pledget of cotton wound on the end of these applicators permitted the culturing through the nose, thus reaching the posterior nasopharyngeal wall. The last method employed by us consisted of applicators made from No. 18 stove wire. The wire is cut up into 8-10 inch lengths, a loop is bent on one end, and the other end hammered flat so that cotton wound around this end will hold. Five of the applicators are placed into a heavy walled test tube, plugged and sterilized. When ready for culturing, the wire is bent on the edge of the test tube to an angle of approximately 60 degrees, one and one-half inches from the end holding the cotton. By burning off the cotton and straightening out the wire it may again be prepared for use. The reduced expense and saving of time, as well as the ease with which cultures can be taken recommend its use.

The culturing was done in a convenient room which had been washed and cleaned previously. A table and chair for the clerk, a pail and a chair so placed that the person to be cultured faces the light are all the furniture necessary. One man at the time is allowed to come into the room to prevent crowding. The tongue is depressed with a wooden tongue depressor and the culture taken by introducing the wire applicator well up the posterior portion of the nasopharynx, first on one side of the uvula and then on the other.

The applicator is withdrawn without touching the oral cavity and the culture plate inoculated, and the inoculated material evenly spread with a platinum wire.

The fireless cooker keeps the plates and cultures at constant temperature until placed in the incubator.

Owing to shortage in glassware we were compelled at first to put three cultures on each plate. This number was later reduced to two, as more petri dishes were available.

The agglutinations were carried out with one or two polyvalent-sera, diluted 1:200 and normal horse serum diluted 1:50. All strains of meningococci isolated either from the spinal fluid, blood, or nasopharynx as well as those obtained from exudates of patients were typed. All strains thus examined were of the "regular"

type. The type sera used were furnished by the Army medical school.

ISOLATION.

Upon notification from the laboratory, the men found to be carriers were isolated in the carrier camp, established by orders of the Division surgeon. Here a card index was kept of the date of entry, number of cultures taken and the results of the culture. Three negative cultures obtained in succession at from 3 to 5 day intervals, were required before discharge from the carrier camp.

TREATMENT.

The treatment of the carriers consisted in periodical spraying of the upper air passages with Dichloramine-T. Treatment was discontinued at least 18 hours before culturing.

During the period from December 18, 1917, until March 7, 1918, 520 carriers were isolated and treated in the carrier camp. Of this number six developed cerebrospinal meningitis.

The number of cultures taken from organizations during the months indicated are as follows:

Dec., 1917...	4873	Carriers isolated	176—3.6 %
Jan., 1918...	11825	Carriers isolated	293—2.47 %
Feb., 1918...	2480	Carriers isolated	51—2.06 %

In all 97 organizations were involved in this epidemic. Of this number 59 were cultured, 38 were not cultured, since in the latter, one case only of cerebrospinal meningitis appeared. In addition 22 organizations were cultured for the purpose of removing the carriers before cases could develop.

Aside from the cultures taken in organizations and the Carrier Camp, it was thought advisable to culture all patients at the time of admission to the hospital. This measure was instituted to prevent the spread of meningitis to other than meningitis wards of the hospital by isolating patients who were carriers of the meningococcus. As soon as the patient was admitted through the receiving ward, he was, if able to walk, brought to the laboratory where the culture was taken, if unable to walk, the culture was taken at the receiving ward. From 75 to 125 cultures were thus taken daily at the laboratory. This number includes also those who desired leave of absence. A statement that bearer had been cultured and found negative was required before permission to leave the camp was granted.

The spread of cerebrospinal meningitis is mainly due to the carriers, who, under certain

conditions, such as inflammation of the upper respiratory tract, harbor the meningococcus in a more or less virulent form. The co-existence of measles, coryza and bronchitis with cerebrospinal meningitis is more than accidental, playing an important role in the infectivity of the meningococcus, and the establishing new foci of the disease. The removal of the carriers is usually followed by a decrease in the incidence of the disease.

Of the organizations affected through cerebrospinal meningitis 29 were also affected with measles, 10 with mumps, 7 with pneumonia, 2 with influenza, while bronchitis was fairly prevalent throughout the camp.

While the removal of the healthy carrier is of great importance in controlling the spread of the disease, little definite knowledge has been gained as to the best methods for freeing the carrier of the meningococcus. The use of the dichloramine-T spray as well as other antiseptic solutions no doubt eliminate the organism for a time, so that it is impossible to detect them by culture. Sooner or later, however, when the preventive spraying is discontinued, the meningococcus may again be recovered from the nasopharynx by culture. The following culture record illustrates this:

F. L. K., Pvt., Hdq. Co., 318 F. A., Dec. 24, 1917, pos. Dec. 31, neg. Jan. 7, neg. released from carrier camp, found again pos. Feb. 13, 1918, and readmitted to carrier camp.

The duration of the period of incubation has been variously placed by the different observers. Wright placed this period from one to ten days, Sophian from one to five. Our observations are in accordance with those of Wright in the Glasgow epidemic, as the following cases indicate:

1. Z. L., Sgt., Hdq. Co., 323 Inf., worked in office with B. A. who was cultured, found positive Jan. 16, 1918, and removed to the carrier camp the same date. Z. was admitted to the Base Hosp. Jan. 25, diag. Fever undetermined. Diag. C. S. M. established Jan. 26. The period of incubation in this instance is nine days.
2. L. F. R., Pvt., Remount Depot, admitted to Hosp., Jan. 25, 1918, diagnosis influenza. On the same date diagnosis C. S. M. was established. This patient boasted of having slipped by the sentry for the purpose of visiting the 317 M. G. Bat., Co. B. about one week before his admission. On Jan. 20, McK. of the 317 M. G. B. Bat., Co. B, was admitted to the Base Hospital, diag. C. S. M. In this instance the period of incubation was about 5 days.
3. That the incubation period may be still

shorter is indicated by the following case: C. T. B., Pvt., Co. 13, 156 D. B., cultured Jan. 11, found neg., recultured Jan. 13, a gram-neg. Diplococcus, morphologically meningococcus was isolated. The organism did not agglutinate. Jan. 14, C was admitted to the Base Hospital, diag. Fever undetermined. Diag. C. S. M. established Jan. 15, 1918. The probable period of incubation in this case is two days.

The onset of the symptoms probably marks the time when the meningococcus gains entrance into the system from the nasopharynx, where it has existed from time of infection.

The small percentage of carriers who contracted the disease raised the question as to their immunity to the organism they harbored. The problem had a wider application, for if there existed a demonstrable immune body in the serum of the carrier, an immunity might possibly be induced by the use of suspensions of killed meningococci in healthy individuals as a prophylactic measure.

It became apparent that results of the agglutination experiments depended in a large measure upon the strain of meningococci used. The suspensions of meningococci used for agglutinations were made from hemolysed blood glucose agar slants. The growth was washed off with salt solution, the suspension filtered through gauze and placed into the incubator at 56 degrees C: for several hours to destroy the bacteriolytic ferment.

The agglutinations were also incubated at this temperature.

TABLE V.

Name	Dilution				Salt Sol.
	1:10	1:20	1:40	1:80	
1. W. B.	—	—	—	—	—
2. B. Th.	—	—	—	—	—
3. P. G. W.	—	—	—	—	—
4. G. H.	—	—	—	—	—
5. F. W.	—	—	—	—	—
6. F. J.	—	—	—	—	—
7. Max Chr.	—	—	—	—	—
8. B. W. G.	—	—	—	—	—
9. J. H.	—	—	—	—	—
10. McA. J. M.	—	—	—	—	—
11. F. C. F.	—	—	—	—	—
12. D. E.	—	—	—	—	—
13. Th. C.	—	—	—	—	—
Rockefeller Poly. S.	++	++	++	++	—

The sera were obtained Jan. 16, 1918, from the carriers indicated above. The agglutination test was run Jan. 18, the sera having been kept in the refrigerator in the interim. Strain used is that of Carrier No. 1 of this table, isolated from the naso-pharynx. This carrier was isolated Dec. 24, 1917, and kept in the carrier

camp on account of repeated positive cultures, for at least four months.

Six sera obtained from patients admitted to the base hospital for suspected meningitis gave also negative agglutination reaction.

In view of the negative findings in the above experiment strain No. 5 isolated from the spinal fluid Dec. 15, 1917, was chosen, because this strain had been under transplantation for one month.

Table 6 indicates the results of this experiment.

TABLE VI.

Name	Dilution of serum			Salt. Sol. Control
	1:10	1:20	1:40	
1. W. B.	—	—	—	—
2. B. Th.	—	—	—	—
3. B. G. W.	—	—	—	—
4. G. H.	—	—	—	—
5. F. W.	—	—	—	—
6. F. J.	—	—	—	—
7. M. Ch.	—	—	—	—
8. B. W.	—	—	—	—
9. J. H.	—	—	—	—
10. McA. J. M.	++	++	+	—
11. F. C. F.	++	++	+	—
12. D. E.	—	—	—	—
13. Th. C.	++	++	+	—
Rockefeller Poly. S.	++	++	++	—
* The sera of the six admissions to the hospital giving negative reaction with the carrier strain B. W., gave the following reactions with strain No. 5:				
1. McC. Ph.	++	++	+	—
2. H. C. J.	++	++	+	—
3. Brady	++	++	+	—
4. Berry	++	—	—	—
5. F.	++	++	+	—
6. P. A.	++	++	+	—

The agglutinations in table 6 were carried out Jan. 19, 1918, with the same sera as used for the previous experiment (Table 5). The positive findings in three of the carriers would indicate that the results obtainable are dependent on the strain of meningococcus used in preparing the suspension for agglutination.

In all 160 sera of carriers from the Carrier Camp were tested by agglutination with strains No. 5 and No. 168 obtained from the spinal fluid. Aside from the three positive agglutinations of Carriers Nos. 10, 11, 13 of Table 6 no additional sera of carriers agglutinated either of the above strains. In comparing our results with those of F. L. Gates,³ it seems possible that our initial dilution of the sera (1:10) was too high.

To determine whether agglutinations occurred in the blood of cerebrospinal meningitis patients early in the disease blood was obtained from the following cases on admission and agglutinations carried out with No. 5 and 168.

3. Jour. of Exp. Med., Vol. VIII, No. 4, pp. 449-474. Oct. 1, 1918.

TABLE VII.

Name	Organization	Date of obtaining serum	1-22-18 Strain 168	1-24-18 Strain 5
1. H. Thos. C., 323 Inf., Supply Co.		1-19-18	0	0
2. R. Jos., 316 M. G. Bat., Co. B. . .		1-19-18	0	1:20
3. B. B. L., 324 Inf., Co. M.		1-20-18	0	1:40
4. S. McK., 317 M. G. Bat., Co. B.		1-20-18	0	0
5. C. Chas., 156 D. B., Co. 19 . . .		1-20-18	1:320	1:320
6. Th. R. L., 156 D. B., Co. 20 . . .		1-21-18	0	0
7. A. J. H., 317 F. A., Bat. D.		1-22-18	0	1:20
8. L. M., 306 Eng., Co. D.		1-21-18	0	0
9. H. F., 322 Inf., Co. D.		1-22-18	0	1:40
10. D. S., 156 D. B., Co. 23		1-22-18	0	0
R. Polyv. S.			1:400+	1:400+

Patients 6 and 7 were carriers and were admitted to the hospital from the Carrier Camp on the dates their sera were taken. The sera of these patients gave no agglutination except in one instance (5) when strain 168 was used while agglutinins were demonstrable in one-half the number of sera used when a strain of meningococci was used which agglutinated readily. Aside from the polyvalent serum and salt solution controls a normal horse serum control was used in all agglutination experiments. Case 2, although giving an agglutination of 1:20 with strain No. 5 died from the disease. The lowest serum dilution employed was 1:10. It is probable that a greater number of sera might have given agglutinations in still lower dilution.

In view of the findings in these cases on admission, it seemed advisable to determine whether the agglutinins increased during the course of the disease. The results of the agglutination on treated patients are indicated in Table 8.

TABLE VIII.

Initials	Organization	Date of admission to Hosp.	Diag. made in Lab.	No. of Jan. 19, 1918 strain		
				in No. B.W.	No. 5	
1. G. S., 316 F. A., Bat. D.		12-24-17	12-25-17	26	1:40	1:40
2. Th. F., 156 D. B., Co. 13		12-11-17	12-11-17	39	1:20	1:40
3. A. L., 316 F. A., Bat. A.		12-14-17	12-15-17	36	0	1:40
4. B. Th., 371 Inf., Co. C.		12-16-17	12-16-17	34	0	1:40
5. D. R., 316 F. A., Bat. A.		1- 6-18	1- 6-18	13	0	1:40
6. A. Cl., 156 D. B., Co. 15		12-29-17	12-30-17	21	—	—
Jan. 22, 1918 Jan. 24						
No. 168		No. 5	Nature of treatment.			
1.	1:80	1:320	Intraspinal only.			
2.	1:40	1:320	Intravenously, large amounts			
3.	1:320	1:160	Intraspinal only.			
4.	1:40	1:320	Intraspinal only.			
5.	0	1:320	Intravenously, large amounts			
6.	0	1:80	Intravenously, large amounts			

Cases 2, 5 and 6 received average or small amounts of antimeningococcic serum intraspinally. These patients were classified as severe cases of meningitis. The production of agglutinins in the blood of the patient appears to increase during the course of the disease. That this increase in agglutinins is not entirely

due to the agglutinins introduced with the therapeutic serum is demonstrated by the findings in the blood of patients 1, 3 and 4, who were treated intraspinally only, the amount of serum given hardly exceeding 40-50 c. cm. at any one treatment while patients 2, 5, and 6 received from 100-125 c.cm. of serum at one time. That the agglutinins are formed by the patient was brought out in the agglutination test with the serum of case 3 C. Ch. Pvt., 156 D. B., Co. 19, whose serum agglutinated both strains No. 5 and 168 in a dilution of 1:320. This patient, a meningitis suspect, received no serum treatment, because the laboratory findings of his spinal fluid were negative.

We were unable to demonstrate agglutinins in the spinal fluids of a large number of patients, both during their period of active treatment and after their spinal fluid had become free of organisms, and the pathological excess of cells.

Aside from a few cases of cerebrospinal meningitis among the civil population of Columbia, S. C., who for one reason or another could not be transferred to the Base Hospital, Camp Jackson, the majority of civilian patients received their initial treatment at Columbia and were then transferred to the Base Hospital. It is of interest to note that not all the civilian patients thus admitted suffered from cerebrospinal meningitis traceable to contact with enlisted personnel or the proximity of the camp to the city. For one of these, a negro, became ill with cerebrospinal meningitis while serving an extended term in jail, the other, Hayward Trezevant, admitted Jan. 31, 1918, had never been near the camp and had just arrived from Ft. Mott.

The prophylactic measures taken by the Board of Health of the city consisted in the prompt isolation of all suspicious cases and those who had been in contact with them. The later were cultured for meningococci of the naso-pharynx and kept under quarantine until found free. Public schools, churches and places of popular amusement were closed and the use of street cars by children discouraged for about six weeks during the height of the epidemic. Throughout the epidemic there was the closest co-operation between the Division Surgeon and the health authorities of the city and state. The

prophylactic measures agreed upon for those desiring to visit the city have been indicated in the earlier part of this communication.

I take pleasure in acknowledging the assistance given me by Drs. A. H. Bunce, G. C. Brunelle, J. S. Fleming, G. F. Klugh, E. H. McLean and A. V. Solomon, members of the laboratory Staff, Base Hospital, Camp Jackson, S. C.

MICHIGAN TRUDEAU SOCIETY.

RESOLUTION ON THE DEATH OF

DR. V. C. VAUGHAN, JR.

The death of the late Doctor V. C. Vaughan, Junior, of Detroit removes from the Michigan Trudeau Society one of its charter members. The loss is a great one to our Society, to the City and State, and to the medical profession at large.

Be it resolved, therefore, that we deeply mourn his death and extend our sympathy to the various members of his bereaved family; that we request that these resolutions and the accompanying biographical sketch by Doctor Guy L. Kiefer be spread upon our minutes and printed in the *Michigan State Medical Journal*; and that a copy be sent to the members of his family and to each member of this society.

TUBERCULOSIS WORK.

Previous to the year 1905 the tuberculosis work of the Detroit Board of Health was confined to an attempt to educate the public in the need of preventive measures. So-called "non-spitting signs" were placed in street cars and other public places forbidding spitting as a general precautionary measure. Pamphlets along similar lines were printed and distributed and knowledge of the disease and its method of spread was disseminated in various ways—through articles in the daily newspapers, in medical and public health journals, and by means of public lectures whenever such were possible.

FIRST T. B. CLINIC.

In the fall of 1905, a new departure was inaugurated—The first "Tuberculosis Clinic" was at that time established in Detroit. A new force entered into the work, a new personality, Dr.

V. C. Vaughan, Jr. Sincerely devoted to his work, charitable and kindly disposed to the afflicted poor and conscientious to a fault in the performance of public duty, Dr. V. C. Vaughan, Jr., took charge of this department and the success of the Board of Health's efforts for the prevention and restriction of the great white plague was assured. The clinic was open daily, except Sundays, from 5 to 6 in the afternoon with Dr. Vaughan in attendance. Here the patients were examined and advised in the prevention of the disease and in the care of their individual case. The homes of the patients were visited by nurses from the Visiting Nurses Association and the members of the family instructed in the details of the prevention of tuberculosis. Each house was provided with one or more folders on "How to Prevent Consumption" and "How to Cure Consumption." The beginning was difficult. It was early in the campaign against tuberculosis, and not only the people at large but even the physicians were not keen in their support. By untiring efforts and everlasting perseverance Dr. Vaughan succeeded in getting patients to apply for advice. The first comers were consumptives in the advanced stage of the disease, almost unable to climb the stairs that lead to the clinic. The kind treatment and careful examination that they always received at the hands of the physician, lead them to tell their friends and acquaintances about it and the opportunity for the Board of Health to reach the public was established. In the summer of 1906 the Exhibit of the National Association for the Study and Prevention of Tuberculosis was brought to Detroit. While the Exhibit was being shown at the Museum of Art, daily from July 30th to August 5th, interesting and instructive lectures on the prevention of tuberculosis were given every evening by speakers from various parts of the country. A large committee of local physicians had charge of this undertaking but Dr. Vaughan was again the moving spirit. Thousands of people visited the exhibit and heard the lectures, and the interest in the prevention of tuberculosis received a new impetus.

Today, when such large appropriations are being allowed for preventive measures, it will be interesting to note that during the year 1907, the sum of \$600 was appropriated to be used as a fund for furnishing food (proper). The amount was increased \$1,200 the following year.

TENT HOUSE ERECTED.

After the tuberculosis clinic had been established a comparatively short time, the need of hospital or sanatorium facilities for some of the patients, became very apparent. Consequently in the winter of 1908, the open air treatment of tuberculosis was begun under the auspices of the Detroit Board of Health. A tent house was

erected on the grounds of the old smallpox hospital on Hamilton Boulevard (part of the grounds now occupied by the Herman Kiefer hospital), and the first patient was taken there for treatment on February 21st. It was a bitter cold winter day as I well remember because I accompanied Dr. Vaughan to call on his first city hospital patient. The consumptive had been living in a couple of dark dingy rooms in a tenement on Congress street east and it was difficult for our nurses to persuade him to open a window at "home" where he sat beside the kitchen stove. After his first night in the open, the patient told Dr. Vaughan that it was the first night he had slept well in months. When the patient was returned to "his apartments," somewhat improved in health, he took the windows out altogether as he said he could not breathe in that stuffy place.

The small tuberculosis sanatorium grew by the addition of another tent house donated by the Tau Beta Alumnae Association shortly after the start had been made. The Tau Beta girls not only presented the tent to the city but paid an amount sufficient for the care of one patient annually for several years. At this point allow me to quote from the report of the health officer for the year 1907-1908:

"It is the intention to keep patients about two months, teach them every detail in the prevention of the disease, give them the best possible care and food during their stay at the hospital and then send them out trained consumptives who will be willing and able to preach the gospel of the prevention and cure of tuberculosis to their friends and acquaintances. If we can in the course of a year increase our facilities so as to admit fifty cases into our training school hospital at one time and change the patients every two months we will be able to educate 300 consumptives a year. In our clinic we will reach at least 300 more who will be given instructions by the physician and nurse in charge. In this way we would be instructing 600 patients a year in the methods of preventing the spread of tuberculosis, and in a comparatively short time our campaign of education will have reached every consumptive in the city of Detroit and the results obtained should then be manifest in the decrease of the number of cases and the reduction of the mortality."

Dr. Vaughan was always strong for this training school as was the health officer with whom he worked so faithfully—but unfortunately the plan did not work out because so many of the patients remain for too long a time and are so far advanced that they can not be taken back to the insanitary houses from which they are usually brought.

In the fall of 1908, six additional tent houses were erected and the north wing of the old building which stood on the grounds, unoccupied, was remodeled and arranged for an administration building and an open air ward for the reception of nine patients. By putting two patients in each tent house, the total capacity was now raised to 25 patients.

One of these tent houses was the gift of Mr. Adolph Finsterwald in memory of his wife, Eva Finsterwald. The generous donor also paid the expense of the care of one patient annually for a number of years.

RED CROSS COTTAGE.

Before the end of the fiscal year of 1908-1909, the Michigan Branch of the National Red Cross Society presented the Detroit Board of Health with most of the proceeds obtained from the sale of "Christmas Stamps" and an open air cottage for the care of eight patients and nurses' apartment was erected and is known as the "Red Cross Cottage." A similar cottage was donated by the Detroit Society for the Study and Prevention of Tuberculosis and is known as "The Blue Star Cottage." All of these improvements have changed the Sanatorium from a single tent house with accommodations for two patients in February, 1908, to a group of buildings with accommodations for forty-one patients within a year.

On Christmas Day a very pretty celebration was arranged for the patients. A small club of ladies consisting of the following: Mrs. Carl Bonning, Mrs. Guy L. Kiefer, Mrs. A. E. Kiefer, Mrs. R. S. Melchers, Mrs. A. H. Steinbrecher, Mrs. William E. Henze, and Mrs. Morse Rohnert, made arrangements for the festive day. They provided an individual present for each patient, the women being furnished with woolen bonnets, the handiwork of the members of the club above referred to, and the men receiving heavy woolen mittens. A Christmas tree was nicely trimmed for the occasion and the administration building decorated with evergreens and holly. All of the decorations were donated by Mr. Samuel T. Douglas, President of the Board of Health, and many beautiful flowers were added to the decorations, the gift of the Tau Beta Alumnae Association. Grinnell Brothers loaned the use of a music box which added greatly to the pleasure of the day. A similar Christmas festival was arranged each year for several years and was under the supervision of the same group of women.

T. B. REPORTS COMPULSORY.

Besides these improvements at the Sanatorium, the work of the Prevention of Tuberculosis was given considerable aid this same year by an act of the State Legislature. A specific law was

passed declaring Tuberculosis an infectious disease and making it compulsory on the part of physicians to report the cases under their care together with certain necessary details to the Board of Health. This is a step decidedly in advance and one for which the Board of Health of Detroit together with the State Board of Health had labored for a long time.

Let us revert now to our Tuberculosis clinic. During the year ending June 30, 1909, four hundred and fifty-nine persons presented themselves to the clinic for examination and the total number of visits made to the clinic by all patients was 2,008.

During the first year of the existence of the Tuberculosis hospital one hundred and one patients were admitted and received attention. These were classified by Dr. Vaughan as follows: Early or incipient cases, 27; moderately advanced, 34; advanced 40. The patients remained in the hospital for periods varying from a few days to twenty-one weeks. In a report made by Dr. Vaughan during that year the cases and the results obtained were all tabulated and the conclusion as best expressed in his own words.

"From an examination of the above tables we see that among the first stage cases 24 out of the 26 patients remaining in the hospital for an interval of at least one week showed improvement in weight, this improvement in weight being in all cases accompanied by a corresponding improvement in their general condition. In other words 92.6 per cent. of the early stage cases did well during their hospital residence. Among the 34 cases classified as moderately advanced, 24 showed improvement in weight and general condition, a percentage of 70. Out of 40 advanced cases 17 showed improvement in weight and general condition during their hospital stay. In other words 42.5 per cent. of the advanced cases showed temporary improvement during their stay in the hospital.

"While it is too early to state whether the early and moderately advanced cases which have gained during their stay in the hospital have acquired a permanent arrest of their disease process, those individuals which have been under observation for from 3 to 4 months since their residence in the hospital have held the ground which they gained in a most satisfactory manner. Moreover these cases if they follow the instructions which have been given them during their stay in the hospital will cease to be sources of danger and infection to the community in which they live."

DR. VAUGHAN, T. B. PIONEER.

During the following year further improvements were made at the hospital and the capacity was enlarged to fifty-nine patients. The Red

Cross Society donated a second cottage which was set aside for children and was the first hospital in Detroit to be used exclusively for tuberculous children.

Until July 1, 1909, Dr. V. C. Vaughan, Jr., was alone in this work, attending all patients at the clinic and at the hospital and making such house calls as were necessary at the homes of the clinic patients. All of this work was done at first without salary and subsequently for a small remuneration because of the great interest in his work and the admirable humanitarian character possessed by Detroit's pioneer tuberculosis expert. Now the duties had grown so manifold that they were beyond the grasp of one man and Dr. Guy H. McFall was appointed as an associate. Until this time the nursing service had been donated by the Visiting Nurse Association, but in 1909 an appropriation was allowed for the appointment of a nurse.

During the year ending June, 1910, 137 patients were admitted to the hospital and 30 cases remained from those admitted previously, making a total of 167 patients cared for during the year. Patients were admitted without any regard as to whether there was hope for their ultimate recovery or not, the only provision being that they could not enter unless there was room for their accommodation. They were classified as follows: Early stage, 35 cases; moderately advanced, 51; advanced, 81. Again quoting Dr. Vaughan's words as to results:

"The results obtained in the case of the early and moderately advanced cases are distinctly encouraging. Thus, out of 48 moderately advanced cases who remained in the hospital for a period above one week in duration, 44 showed material improvement in weight and general condition—a percentage of 90. Moreover out of 36 moderately advanced cases who had left the hospital during the present year, 20 are at present engaged in some form of labor, in other words 55.5 per cent. of the moderately advanced cases who have left the hospital are working and to a certain extent self supporting at present. With regard to the early cases, out of 35 patients remaining in the hospital for periods of one week or over, 32 showed improvements in weight and general condition, a percentage of 91.4. Among 33 early cases discharged from the hospital, 20 have been able to return to their work—a percentage of 78.7. The cases which returned to work after leaving the hospital are carefully followed at the clinic in order to see that they do not retrogress."

THE DIAGNOSTIC CLINIC.

During the following year the work continued with an enormous growth—702 patients made 6,020 visits to the clinic as compared with 533

patients who came 2,923 times the year previous. The number of nurses doing tuberculosis work was increased from one to three, and these nurses made 1,614 visits to homes of patients. During the year 249 patients were admitted to the hospital. In April, 1911, Dr. Vaughan inaugurated an extension of the work in what he termed a "Diagnostic Clinic." The regular clinics were being held daily, except Sundays, from 10:00 to 12:00 a. m. The diagnostic clinic was opened daily from 4:00 to 6:00 p. m. and was for the purpose of examining children not known to be tuberculous but of tuberculous parents. Dr. Vaughan's idea in choosing this hour was in order to obtain records of any elevation of temperature or acceleration of pulse which will manifest itself, if at all, at this time of the day. Moreover children could attend without interference with their school duties. Special tuberculin tests were employed, when necessary, to arrive at a certain diagnosis.

In a comparatively short time 80 children were examined and among them were discovered 40 children with undoubted tuberculous disease who were apparently in good health and who had manifested no symptoms at the time of examination, although definite physical signs of the disease were present. The importance of the detection of these cases is evident as it brings under observation early closed cases, a large proportion in fact, practically all of which, under proper care and attention, will be completely cured without ever becoming, at any stage, a source of danger to others. This is one of the most important phases of the work ever undertaken and it was due entirely to Dr. Vaughan's watchfulness and ever increasing interest in this subject.

CLINIC WORK ADVANCES.

During the year ending June 30, 1912, the number of beds available at the Board of Health Sanatorium was increased to 75. The work at the clinic further increased, the number of new persons examined during the year being 888, besides which there were 270 patients carried over from the previous year. The most striking fact in connection with the work of the Tuberculosis Clinic now is that so large a number of persons not suffering from the disease present themselves for examination. This is the very result that had been hoped for by Dr. Vaughan and he expressed it in his report of that year: "When you take into consideration both those that were found not tuberculous and those who could be classed as suspicious, we have a little more than half the entire number who presented themselves for examination at our clinic. This means that 264 persons who have been exposed to the disease and who had reason to suspect that they might have contracted it, sought instruction in

how to protect themselves against it and that 182 who had positively suspicious cases of tuberculosis will now become entirely well."

On September 3, 1912, The Nellie Leland School, an open air school for cases of closed tuberculosis, was opened. This school was erected by the Detroit Society for the Study and Prevention of Tuberculosis. The building was paid for by Mr. Frank B. Leland and was situated on ground purchased for the purpose and given rent free by the late Mr. J. L. Hudson. The Detroit Board of Education and the Detroit Board of Health co-operated with the Detroit Society for the Study and Prevention of Tuberculosis in the management of the school. The Society furnished the school and subsequently the provisions for the pupils, the Board of Education furnished the teacher and the Board of Health provided the physician and the nurse. Dr. V. C. Vaughan was the physician chosen by the Board of Health to take charge of this work. The pupils were carefully selected from diagnostic clinic and were admitted by Dr. Vaughan, who visited the school at least once a week to keep track of the physical condition of the children. In a report written at that time, Dr. Vaughan said:

"From a medical standpoint the School has proved a decided success and it is to be hoped that the beneficial results obtained will lead to the establishment of similar institutions in the near future, as at present we find it possible to take care of only a few of the cases which should be provided for in an institution of this sort."

The hope expressed in the above paragraph has been realized as a number of open air schools have been established. The year following the opening of the Nellie Leland School, brought an open air school in connection with the Tuberculosis Sanatorium of the Herman Kiefer Hospital and since then there have been added several open-air rooms or pavilions in connection with a number of the public schools of the city.

By July, 1913, the accommodations at the Hospital had increased to eighty-five beds and two additional Tuberculosis clinics had been established, one in the extreme western end of the city and the other in the northeastern section.

At this time my activity as Health Officer ended by resignation, but fortunately for the city, Dr. Vaughan was induced to continue as chief of the Tuberculosis Division of the Board of Health. The work has grown tremendously since then—the hospital now houses 170 patients and will soon accommodate 35 more, making a total of 205 on the old grounds. On the other hand an appropriation of \$1,000,000 is available for a fine, large Tuberculosis Farm, the grounds for which have been purchased near Northville. The number of clinics is growing constantly as is the number of physicians and nurses.

In 1917, Dr. Vaughan entered the Medical Service of the army but previous to that time a pretty romance occurred in connection with his work in The Department of Health. For several years previous to 1914, Miss Elsbeth Hosig was chief nurse of the Tuberculosis Division and as such was brought into daily association with the chief physician. She was his right hand support, as faithful in the performance of her duties as the doctor himself, deeply interested in his success and congenial as his co-worker. It was a natural consequence then perhaps, but a beautiful sequel, that Miss Elsbeth Hosig became Mrs. Victor C. Vaughan, Jr. His faithful and tireless co-worker became his cherished and devoted wife.

AN UNTIMELY END.

Unfortunately the brilliant career of Dr. Vaughan was cut short by his untimely death—June 4, 1919—when he was about to return from France to his native country, from army service to his life's work. The work of the Detroit Department of Health for the prevention of Tuberculosis will continue to progress, but it must never be forgotten that it will do so because of the solid foundation laid by Dr. V. C. Vaughan, Jr., a foundation so well planned and so carefully set that conditions can not change nor time efface it. His labors in behalf of the Tuberculous poor, painstaking, self-sacrificing, noble, will always remain as an inspiration to those who follow him. His beautiful character will never be forgotten. All honor to his memory!

STATUS LYMPHATICUS; ITS OCCURRENCE AND SIGNIFICANCE IN WAR NEUROSES.

The incidence of so-called status lymphaticus in soldiers with psychoneuroses is virtually twice that in wounded soldiers who did not develop a neurosis. This finding appears to indicate that in the etiology of the war neurosis, an endocrinal abnormality increases susceptibility to the neuro-

sis. It emphasizes the fact that in many, if not in all cases, strong etiologic factors are at work in the physiologic domain without minimizing the importance of factors that are psychical. Rather, it brings new proof, of a physical character, of the conception that, in the war neurosis, an initial weakness operative in the psychical field, is essential.

(Arch. of Neurol. & Psych., Oct., 1919, Davis).

The Journal

OF THE

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November

Editorials

CANCER.

What are we as a profession doing in regard to the cancer problem?

We recall a few years ago, yes quite a few years ago, that we had a Cancer Committee. We also remember that that Committee was formed at the instigation of Dr. J. H. Carstens. For some reason or other that Committee was discharged and the work it had begun remains unfinished. It is true that from time to time our attention has been called to the subject by the writings and discussions of Dr. Carstens but there our activity ceases. Why? Is Dr. Carstens alone to carry on, or are we going to rally to his support in the discussion of this subject, the dissemination of public information and the pursuit of a definite plan to combat the inroads that are made by cancer?

We now know that the persistent work of our Anti Tubercular Committees is producing results. The Anti-Tuberculosis movement is accomplishing definite results in lessening the

mortality rate of that increase. The same results can be secured by like effort directed toward the cancer problem.

We ask for volunteers who will consent to bring before our next meeting a definite plan of action. Will you volunteer to act on such a committee?

ORGANIZATION MISNAMED.

For seven years we have been preaching organization, earnestly and sincerely, not as a hobby but as a duty we felt we owed to the profession. We have seen increasing evidence each month, each year, of the need of compact medical organization that means more than payment of dues and occasional attendance at a society meeting. Organization that is constructive, organization that is productive, organization that is protective and organization that is combative for the rights of the profession as a whole and for the individual.

We have observed the complacency with which these "preachings" have been read or ignored. No real attention has been given to the warnings issued and no particular interest has been taken in the future that awaits the profession—a future that is filled with dire potentialities that will sweep aside, break down all that the years have wrought for us as doctors of medicine. We have, as an organization, complacently let the politician, manufacturer, corporation, insurance company, business man, community, county and state governing bodies tell us what we were or were not to do and only on rare occasions have we raised a voice in protest. We have quietly and true, with inward grumbling, acquiesced without making an effectual effort to protest or dictate in how so far we were to be dictated to.

If you doubt the last declaration, please tell us what was done to outline the profession's protection when the Compensation Law was enacted and the recent amendment passed to protect the doctor from the dictation of the Board or Insurance Adjusters for medical services? What protest was made when the narcotic tax was increased 300 per cent. for the

permission to scientifically prescribe opium and its derivatives? Who stood idly by while legislators and W. C. T. U.'s made it impossible to secure "undoctored" alcohol unless we filed bonds for which we paid a premium to insurance companies? What was done when an arbitrary ruling was made in regard to our income returns? And so we might continue for ample instances are on record where we have stood idly by and done nothing. And what is more, we seem content to remain in the same state of somnambulism and permit the imposition to continue.

And now there threatens state compulsory health insurance. If that act is adopted when introduced the very foundation of medicine will be invaded. When that time comes, if the physicians do not present a solid front and stand together in their demands for just standards and adequate remuneration, we will be caught between the two biggest forces in the state and crushed. Medical practice will be so lowered that eventually it will be impossible to practice honestly and live. The two forces are employer and labor—one seeking to keep the cost as low as possible; the other to demand the maximum of medical benefits.

Our salvation will depend upon how well we can organize for collective bargaining. Our only hope lies in organization and the use of that power to control the situation. Do you wonder we are concerned and view with alarm our past lethargy? When will the profession awake? Not until we do will we be able to dam back the force that surely threatens to submerge us.

As we headed this editorial, at present as an organization we are misnamed unless we concern ourselves with other problems than those purely scientific in character. Again we ask—are we awake or awakening? What are you going to do about it?

NOVEMBER ELEVENTH.

The rapid trend of events, the wonderful changes that are being wrought, the busy and crowded hours of the last twelve months have already enshrouded the war days in the first

hazy mists of the past. As we pause to reflect, the memories of a year ago appear to be enveloped in a haziness with indistinct minor details. Scarce can we believe that on November Eleventh, one year ago, the world's war terminated and hostilities ceased.

You who were home recall the frenzied event of American spirit that greeted the first peace headlines and the subsequent days of celebration as well as the silent "Thank God, Its Over," that you breathed when the truth of the news was verified.

You who were "Over There" require no word to recall your hesitating belief and emotion when the word was flashed along that November morning commanding hostilities to cease at eleven o'clock.

To all there will, no doubt, come a reminiscent hour on this November Eleventh, the first since hostilities ceased. And as you engage in your retrospective reflections on that day we make this request:

That as the hour of Eleven strikes on the Eleventh of this month, every doctor in Michigan, no matter where he may be, no matter what he is doing, even in the midst of an operation, pause in his work and in bowed silence pay our reverent tribute to those of our number who made the supreme sacrifice. Our Heroic Doctors kept the faith; we too must keep faith with them. Let other events be forgotten, let other memories fade and die but Doctors of Michigan, may the years be long before we in Michigan forget those of our number who went forth, as our representatives, but who now sleep on foreign soil. May we never be disloyal to their memory.

MEETING OF THE THIRTEENTH COUNCILOR DISTRICT.

On the evening of October 7th, we had the pleasure of being present at the meeting of the Thirteenth Councilor District held in the Fay-hall Hotel at Cheboygan.

After satisfying the demands of the inner-man at an excellent dinner, the attending members, twenty-five in number and representing

Alpena, Alcona, Antrim, Charlevoix, Cheboygan, Emmett and Presque Isle counties, proceeded immediately to the business of the meeting.

Following a short address of welcome by Dr. Tweedale, secretary of the Cheboygan County Society, most enjoyable papers were presented by Dr. Baker, our worthy president of the State Society, Dr. Van Leuven of Petoskey and Dr. Slemons, of the State Health Commission.

One of the most noticeable features of the meeting was the intense interest and spirit manifested by these hustling members of the district in the real matters of organization and the furtherance of their common welfare. Dr. Parks, the Councilor for this district, is indeed fortunate in having the backing that was evidenced at this meeting and although certain parts of the district are not as efficiently organized as they should be, the spirit evinced by the attending members should soon overcome any lack in this direction.

Probably the crowning feature of the meeting, was the remarkable record made by Dr. Tweedale of the Cheboygan County Society, who in less than a month's time, by unstinted effort and application, brought the membership of his society from the disheartening number of two active members to include every physician in his county, registering 100 per cent. in membership for the meeting and attaining a record of which he may well be proud. This shows what can be done if the effort is there and Dr. Tweedale's work should be an incentive to EVERY county society secretary in the state.

We take this opportunity to express our appreciation of the efforts of Dr. Parks and Dr. Tweedale for the success being achieved in the organization of the Thirteenth.

THIRD SURVEY OF HOSPITALS.

The third survey of hospitals being made under the auspices of the American Medical Association is now well under way. Through an extensive correspondence and a third questionnaire the Association has collected a mass of information on the subject. Much of this ma-

terial has been tabulated and forwarded to committees in each state representing the state medical associations. Most of the state committees have arranged definite lines of action and by inspection of the hospitals or by other methods are securing first hand information by which the data collected by the Association is being carefully checked. The immediate end sought is to provide a reliable list of hospitals which are in position to furnish a satisfactory intern training. The investigation is not limited to intern hospitals, however, but will cover all institutions and the data obtained will be useful in any future action which may be taken in classifying hospitals. The work in Michigan is in charge of a committee of which Dr. George L. LeFevre, President, Board of Registration in Medicine, Muskegon, is Chairman, the other three members being Dr. Guy L. Connor, Member, Board of Registration in Medicine, Detroit, Dr. A. M. Hume, Owosso, and Dr. D. Emmett Welsh, Treasurer, Michigan State Medical Society, Grand Rapids. The closer relationship which the hospital now bears to the public in the community which it serves makes it all the more important that the service rendered by it shall be excellent in character.

DIVISION OF FEES.

The law published below was passed by the last legislature and is now effective. This act makes it a punishable offense to split fees. He who continues to pursue such a course becomes amendable to this law. It is to be urged that those who indulged in the practice will discontinue doing so.

Senate Bill No. 282. File No. 264.

Introduced by Senator Hayes.

State of Michigan

50th Legislature

Regular Session of 1919.

Senate enrolled Act. No. 69.

An act to prohibit the division of fees by physicians and surgeons and to provide a penalty for a violation of the provisions of this act.

The People of the State of Michigan enact:

Section 1. It shall be unlawful for any

physician or surgeon to divide fees with or to promise to pay a part of his fee to or pay a commission to any other physician or surgeon or person who calls him in consultation or sends patients to him for treatment or operation.

Section 2. Any physician or surgeon who pays or receives any money prohibited by this act shall be punished by a fine not to exceed one hundred dollars or imprisonment in the county jail not to exceed ninety days, or both such fine and imprisonment in the discretion of the court.

Section 3. In case a physician or surgeon shall be convicted of violating any of the provisions of this act the Board of Registration in Medicine, upon a first conviction may and upon a subsequent conviction shall, revoke the license of the person so convicted.

Editorial Comments

November with its Thanksgiving and first snow finds Michigan's doctors back into the harness of winter work and long hours. But in spite of the demands upon your time Doctor, arrange your work so that on the afternoon or evening that your society meets you will be in attendance. Pass along that tardy patient, who comes into your office just as you are starting for the meeting, until tomorrow. Be sure that emergency call is in reality an emergency. In fact you can not risk hiding behind a shallow excuse. Make up your mind to go and then go.

Are Industrial and Indemnity Insurance Companies attempting to dictate to you? If so discuss the problem at your next meeting. Of course you can't charge big fees for poor work, while on the other hand when you have done modern industrial surgery and exercised every skilled care you are entitled to your fees. There seems to be one trouble and that is that the incompetent do not realize that the end result determines the degree of skill that has been exercised.

It's the exceptional "Doc." who nowadays is content to travel by his "lonely." The better ones realize the need of society affiliation.

This gargle—

Quinine Sulphate or Bisulphate, grs. VI.

Thymol.

Ol. Menth Pip.

Ol. Wintergreen aa zi.

Aquae, gallons, one.

used undiluted and several times a day will be found most efficacious in preventing throat infections. It is particularly effective in clearing the mouth and throat of the pneumococcus. We have become personally familiar with its potency on several occasions and have witnessed its effect on three different occasions—the last one being where some nine hundred throat cultures before and after this gargle was used were studied. During the influenza epidemic last year those who faithfully used the gargle escaped infection and gave negative throat cultures. McCord has reported a series of laboratory investigations and demonstrates the effective bacteriacidal properties of quinine whenever the pneumococci are the prevailing organisms. Try it this winter.

A serious problem confronting our hospitals, the profession and the public is the scarcity of students in our nursing training schools, as well as that of graduate trained nurses. The increasing demands of higher education incorporate the provision that students entering training schools must possess a high school certificate. The curriculum also insists upon a three year training course. To all of which we subscribe approval. We hold that a trained nurse must receive more than superficial instruction.

But we can not reconcile the waste of time in the first three or six months of the present curriculums of most of our training schools. The student nurse devotes from two to four months and in some instances six months as a probationer. In that period of her training her time is largely consumed in scrubbing bath rooms, tubs and toilets, and similar menial work. We venture to assert that such work is without a training course scope and may well be performed by paid help and the probationer's time occupied by other training duties, that will be of greater value to her and permit longer training in the basic and essential principles and practice of nursing. Serious consideration of this feature of our training schools should be given by those who direct our hospital schools.

And now comes "Mr. Grunter" who has been in the rut so long he can't keep up with the pro-

fession's progress, and all he does is to grunt and growl. Moral—your local County Society will enable you to escape "Mr. Grunter's fate of becoming a "has been."

Dr. Hugh Cabot of Boston has been elected professor of surgery in our University and head of the Surgical Department of the University hospital. This is the announcement made by the Regents during the past month. We sincerely hope that a generalized readjustment of policy and attitude will result so that some of the past and present abuses and imposition upon the profession of the State will be corrected. Yes, we realize we are touching a tender and sensitive spot—but unless that feeling is removed the near future is bound to bring a serious rupture between the profession and the University Medical Department.

"Old High Cost" continues in full health and vigor. Gee—but we wish somebody with a Dempsey wallop would come along and give him the count. The way paper, ink and labor continue to go up and increase our publication expense is causing us no little concern and worry. We are endeavoring to get along as well as possible and make no retrenchments.

Years ago, more or less, we were all boys—we mean boys in the accepted sense of tender years, two piece customs and ten cent hats. Back in the old swimming hole days there was always strife and differences about this thing, that thing and the other and naturally a scrap or two. Even now you can narrow down your eyes to a mere slit, lean back in your chair and squint through the tobacco smoke and see Jim with the chip on his shoulder. Then look about and "Jim" with his chip is visualized in your neighbor and competitor. In place of knocking the chip off and starting a modern row, go ask "Jim" at the first opportunity to accompany you to your next County meeting and cause the chip to fall unnoticed by the wayside. Now-a-days you can not afford to indulge in any "scraps." To many problems confronting demand co-operative solution. We bespeak the taking of an active part by all of our members in organization work.

"A good dinner takes the wrinkles out of both your tummy and your forehead."

When you patronize an advertiser you make it possible to send you a better Journal. When you secure a new advertiser you assure a larger and better Journal. Will you make the effort?

Simplicity—surely that is the very cornerstone of success in preparing for any vocation. Simplicity—it is so easy to get and yet so hard to hold to. Many of us realize its value way down in our hearts but somehow or other we so often forget it at the bedside, in the hospital and when we meet our fellows. We have started the thought, reader, now ponder over it.

Bricks that build walls of confidence—what are they? To be brief we are going to simply enumerate them: personal and office neatness and orderliness; care and attention to details and a patient's feelings and sentiment; abreastness and utilization of modern principles and practices; affiliation with and attendance at your local County and State Society; studiousness—the spending of a definite amount of time each day in reading and investigation—these are but a few of the bricks that tend to stabilize a wall of confidence for you in the community in which you reside. The more of these bricks that you acquire, added to others that will be apparent to you will surround you with a wall of confidence that assures contentment and happiness in your life.

Correspondence

September 27th, 1919.

Dr. F. C. Warnshuis,
Journal of Michigan State Medical Society,
Grand Rapids, Michigan.

Dear Doctor Warnshuis:

My attention has been called to an editorial comment in the Journal for September in which the inference is clearly drawn that I am an advocate of any kind of compulsory health insurance. Inasmuch as it would not have been difficult for you to have ascertained my views and you have chosen to draw your conclusions from a newspaper report, I rather resent the implication contained in your article.

That some kind of health insurance is highly desirable, as well as inevitable, I firmly believe. I rather think that it is desirable to make it compulsory. On the other hand, I quite agree that the ill-conceived legislation passed in a number of states recently is not going to be for the

good of the people and, not being good for the people in general, it will be detrimental to the interests of the medical profession. Mere opposition on the part of the medical profession to the general subject of health insurance is not going to accomplish very much except to lessen the chances of securing constructive legislation which will protect the interests of the medical profession and encourage the practice of better medicine.

A certain gentleman of antiquity, with full confidence in his own ability, once essayed to turn back the sea but, as I recall it, the net result of his adventure was a wet raiment—and no fish.

To raise the issues of "compulsion" and "bureaucracy" is only to employ the wiles of those who have long been the enemies of the medical profession and it ill befits us, to advance such bugaboos as arguments. Education is compulsory, obedience to law is compulsory and, to most of us who have to work for a living, work is compulsory, so why the fright at the word?

A good deal of the faulty legislation already enacted is due, in my opinion, to lack of information on the part of those who have made the laws. Would it not been most logical for the medical profession earnestly to endeavor to formulate and advocate such measures for health insurance as will result in the best service to the public and to the maintenance of the best traditions of medicine? In this way the doctors will be able to offer something in the way of a constructive program and not be subject to the accusation that they are members of a "trust" opposed to any form of interference with a "personal liberty" which takes no account of the rights or welfare of others so long as it remains undisturbed.

Very truly yours,
C. G. PARNALL, M.D.

Dear Sir:

I am instructed by the Cheboygan County Medical Society to notify the Medical Department of All Straight Life Insurance Companies that commencing with October 1, 1919, Five Dollars will be charged for each insurance examination made from \$1,000 to \$10,000.

All physicians of the county are members of the Society.

I remain,
Respectfully,
Dr. C. B. TWEEDALE, Secretary.

Deaths

Doctor Grace Clark, of Detroit, died following a brief illness with pneumonia.

Doctor Clark graduated from the medical department of the University of Michigan in 1902, since which time she has practiced her profession in Detroit. She was associated with Doctor Rhoda Farquharson and Doctor Mary Haskins in medical practice at the time of her death.

She is survived by her parents, Mr. and Mrs. W. A. Clark of Mayville, a brother, Stanton Clark, and a sister, Mrs. Gabriel Tuthill of Detroit.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

Detroit College of Medicine and Surgery opened September 29th with a total enrollment of 150 students. Of these approximately 100 are residents of the City of Detroit, the others coming from various parts of the country. Their classification is as follows: Seniors 41, Juniors 52, Sophomores 17, Freshmen 33 and Special 7.

The Detroit Board of Education has enacted a ruling whereby students who have been for one year previous to matriculation residents of the City are released from the necessity of paying tuition. These resident students pay an annual fee of \$25.00 which is assumed to cover depreciation of the teaching plant and clinical fees in the various hospitals affiliated with the College. The non resident students pay an annual fee of \$150.00 which covers all expenses.

At a recent meeting of the Faculty action was taken lengthening the college course to five years by requiring one year of internship or research or teaching before the degree of Doctor of Medicine is conferred. This applies to the Freshman class of 1919-20 and has been confirmed by the approval of the Board of Education.

The teaching staff of the College is very complete and has been carefully selected, there being at present more than twenty names on the College payroll, exclusive, of course, of janitors. Dr. C. F. McClintic, late of the University of Cin-

cinnati, has been employed to take charge of the Department of Anatomy, Histology and Embryology and Dr. A. R. Grierson, also of Cincinnati, has been employed as Dr. McClintic's assistant in this department. The growth and development of the Department of Pathology and Bacteriology during the past year under the supervision and control of Dr. James E. Davis leaves nothing to be desired. The other pre-clinical departments are named as heretofore and no change in the staff personnel of these departments is at present contemplated though additional teachers will be appointed from time to time as the need for them develops.

Extensive additions in the way of teaching and research equipment have been made in all the laboratories, thanks to the liberality of the Board of Education and of the Civic Administration of the City of Detroit, so that in these respects the College is unusually well provided for. The present relations of the College with its affiliated hospitals are very satisfactory. A teaching schedule has been arranged whereby the Senior class is divided into sections of appropriate size which receive their clinical instruction in the general hospitals, one group in each hospital. By this means overcrowding and too rapid hospital rotation are avoided, the students remain longer in the hospitals and no hospital is overburdened.

So far as entrance and promotion standards are concerned the College prides itself on the care with which credentials are evaluated and the rules suggested by the Council and the State Board are administered. At the present time no conditioned students are admitted either to the Freshman class or to advanced standing and no student is admitted to advance standing who cannot produce a certificate from the authorities of the school whence he comes authorizing his re-registration in that school with the same classification he asks of the Detroit College of Medicine and Surgery. Furthermore, no students are received from other than Class A medical schools and no premedical colleges are recognized excepting those on the acceptable list of the Council on Medical Education of the American Medical Association. It is hoped that a careful adherence to these standards will assure the College the approval of the various standardizing agencies in relation with which it comes.

Dr. John Bell, retiring President of the Wayne County Medical Society, gave the President's Annual Address, Monday evening, September

22nd, at Medical Bldg., Detroit. Among many things, he mentioned the following:

1. Two hundred members of this Society have been away serving Our Country.
2. There was only one death, Dr. V. C. Vaughan, Jr.
3. Approximately 115 new members have joined our Society during the past year.
4. The average attendance of the weekly meetings was about 112.
5. A permanent memorial tablet to those who were in service should be placed in our Club Rooms.
6. Attention should be given to the matter of securing more hospital beds in Detroit.
7. A large Municipal Hospital should be built at once, to be placed under the control of a hospital commission.
8. There is still an indebtedness of \$7,000 on our property.

The Detroit Academy of Medicine held its annual meeting at the Country Club on Tuesday evening, October 14th. The following officers were elected: President, Dr. Ray Connor; Vice President, Dr. W. H. Morley and Secretary-Treasurer, Dr. Walter Manton. The retiring President, Dr. C. G. Jennings gave an interesting talk on Medical Education in Detroit. Preceding the meeting the Fellows of the Academy were entertained at dinner by Dr. Jennings.

The Michigan State Board of Registration in Medicine held its meeting in Lansing on October 15th. The following officers were elected for the ensuing two years: President, Dr. George LeFevre and Secretary Dr. B. D. Harison. All the members of the Board were present.

Dr. R. Parmeter has been appointed chief surgeon, Dr. Bruce Lockwood chief physician and Dr. William Bailey, formerly of Lakeside Hospital Cleveland Supt. at the Detroit Receiving Hospital.

With urgent need for more hospital accommodations the Wayne County Medical Society have appealed for the use of the Ford Hospital which has recently been relinquished by the government.

Dr. R. C. Stone announces his return from service overseas and the reopening of his offices at 618-19-20 Post Building, Battle Creek, Michigan, for the practice of surgery.

At the present time, the Detroit Receiving Hospital has 150 beds, with an addition of 250 beds in course of construction. This addition will be opened next summer.

County Secretaries are requested to send in reports of their meetings for publication. May we not have a full report of every meeting that is held?

Dr. Stewart Hamilton has recently been appointed a member of the Detroit Poor Commission. He succeeds Dr. Stanley Miner.

The Detroit Receiving Hospital has 6 internes, 38 nurses and a resident physician in medicine and one in surgery.

Dr. Eugene Miller was elected a Director, and Dr. A. H. Rockwell President of the newly organized Michigan Health Association.

Dr. W. S. Osborn and Miss Lela E. Terry of Detroit were married September 10th, and now reside at 115 Linsdale Ave., Detroit.

Dr. Victor Ryan of Escanaba has located in Detroit and is engaged by Dodge Brothers in their new hospital.

The Herman Kiefer hospital of Detroit has opened a maternity department under the direction of Dr. W. P. Manton.

Kalamazoo physicians are reported as having increased their fees to \$3.00 and \$4.00 for day and night calls.

Dr. W. A. Grant of Lyons has sold his practice to Dr. Fullenwider of Detroit.

Dr. M. L. Cushman of Lansing has resumed practice after eight months overseas service.

The Michigan Trudeau Society met in Kalamazoo, October 8th.

Kent, Ottawa and Barry counties will hold a meeting in Grand Rapids on November 26th.

Dr. James B. Quick has located in Laurium.

Dr. F. F. McMillan has located in Charlevoix.

Dr. W. J. Kane has located in Mt. Clemens.

Dr. W. P. Morrill of Benton Harbor has returned after over two years of military service.

Dr. Frank Sarazin has located in Houghton.

Dr. E. H. Grover has located in Baroda.

Dr. J. S. Craig has been elected full-time health officer of Ishpeming.

Dr. A. D. Sharp has located in Albion.

The Tri-State Medical Society will meet in Kalamazoo, November 3rd.

Port Huron has established a dental clinic in its public schools.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. Secretaries and urged to send in these reports promptly

CHEBOYGAN COUNTY.

A meeting of the medical men was held at my office last night. The following was accomplished:

Officers elected:

President—Dr. A. M. Gerow.

Vice President—Dr. W. F. Reed.

Secretary-Treasurer—Dr. C. B. Tweedale.

Constitution and by-laws to be printed. Fee bill revised, to be printed and signed. Every physician in the city a member (nine). Two members secured for state society, and others

will follow. Five men in the county elected provisionally, (on payment of their dues).

TRI-COUNTY.

At the regular meeting of the Tri-County Medical Society held Oct. 3rd the following officers were elected:

President—C. E. Miller, M.D.

Vice-President—E. B. Babcock, M.D.

Second Vice-President—E. A. McManus, M.D.

Secretary and Treasurer—W. Joe Smith.

Delegate to State Convention—G. D. Miller, M.D.

Alternate—S. C. Moore, M.D.

Dr. Gruber also announced his intention of moving from Mesick to Cadillac. He recently returned from overseas service.

WAYNE COUNTY MEDICAL SOCIETY.

Officers and Committees for 1919-1920.

President—Dr. George E. McKean, 1515 David Whitney Bldg., Cherry 2661.

Vice-President—Dr. Raymond C. Andries, 641 David Whitney Bldg. Cherry 694.

Secretary—Dr. J. H. Dempster, 502 Fine Arts Bldg. Cherry 2012.

Treasurer—Dr. Wm. H. Morley, 33 East High St. Main 3778.

Trustees.

Dr. A. D. Holmes (1 year), Chairman, 1745 East Jefferson Ave. Edgewood 1473.

Dr. Angus McLean (2 years), 641 David Whitney Bldg. Cherry 694.

Dr. Frank B. Walker (3 years), 1229 David Whitney Bldg. Cherry 1120.

Dr. Walter J. Wilson, Jr. (4 years), 509 David Whitney Bldg. Cherry 5193.

Dr. Warren L. Babcock (5 years), The Grace Hospital. Glendale 90.

(Dr. J. H. Dempster, Secretary Board of Trustees).

Surgical Section.

Dr. James D. Matthews, Chairman, 948 David Whitney Bldg. Main 777.

Dr. E. G. Martin, Secretary, 1447 David Whitney Bldg. Cadillac 4675.

Medical Section.

Dr. Herbert M. Rich, Chairman, 1337 David Whitney Bldg. Main 1090.

Dr. E. W. Caster, Secretary, 3004 Woodward Ave. Hemlock 2280.

Book Reviews

"WHAT WE KNOW ABOUT CANCER." A Hand-book for the Medical Profession. Prepared by a committee of the American Society for the Control of Cancer, American Medical Associated Press, Chicago, 1918.

The American Society for the Control of Cancer has been in existence and working effectively for a number of years. The sole object of the Society, at present at least, is the "dissemination of facts in regard to cancer to the end that its mortality may be reduced by a wider knowledge of the disease."

The effort represented by the present pamphlet has perhaps the most far reaching possibilities

for good of any single attempt to lessen cancer mortality undertaken in this country.

It is no longer necessary to argue the point that delay is the one great factor in cancer mortality. At least four-fifths of cancer deaths could be prevented by early recognition. The conditions necessary for recognition of cancer in ample time for cure are not ideal but distinctly practicable. Public education is one important pathway of improvement, but education of the medical profession itself is of equal if not greater importance. Statistical studies have shown that in the majority of cases the doctor has had the cancer patient, "under observation" over a year before efficient curative treatment is instituted. It is needless to state that during this year the majority of cases have changed from curable to incurable. As the pamphlet itself somewhat mildly puts it, "The conditions call for a far keener appreciation of responsibility for the mortality from cancer than now generally exists in the medical profession."

It is not possible here to abstract this pamphlet which is already so condensed. The general facts concerning cancer are outlined and then each important type and site of cancer is taken up in detail and the forms, symptoms, standard treatment, and results to be expected are outlined for each type.

The chief point we would make here is that if every medical man would study and seriously apply the teaching in this pamphlet, which he can read in an hour, the question of delay in cancer would be solved in so far as it is referable to the medical profession. The ultimate possible good obtainable from the wide spread dissemination of this pamphlet is so great that we would urge every possible means to get it into the hands of as many medical men of all classes as possible. It can be had from the American Medical Association, 535 N. Dearborn St., Chicago, for 10 cents. If you are a trained surgeon get it. It will interest you. If you are further afield get it and study and apply it. If you feel misgivings that some of your cases in the past might have been saved had you been more sure and acted more promptly (and who of us does not have such misgivings) get it. It will help you in future cases.

We would especially beg the assistance of Boards of Health, both state and municipal and of medical societies in distributing the pamphlet. It can be bought cheaper in quantities and sent out with your other mail matter with almost

no extra cost or trouble. When such a simple means for such far reaching good is in our hands it is a pity to let it lie neglected.

Miscellany

ACTION OF CERTAIN DRUGS ON THE
BRAIN CIRCULATION IN MAN.

- 1. Amyl nitrate causes a marked dilation of the brain vessels.
- 2. Epinephrin induces a primary constriction of the brain vessels which is followed by a marked dilation.
- 3. Caffein produces no demonstrable change in the dosage employed.
- 4. Pituitary extract is followed by a dilation of the brain vessels, accompanied by a distinct 'leukoreaction.'

(Arch. of Neurol. & Psych. Oct., 1919. Rae-phael and Stanton).

A STUDY OF HYSTERIA, OBSERVED IN
THE U. S. ARMY HOSPITAL,
PLATTSBURG, N. Y.

- 1. Hysteria is purely functional in its nature and the mechanisms underlying its manifestations are entirely mental.
- 2. The causes to which patients attribute their hysterical symptoms are obviously and absurdly inadequate.
- 3. It is a mistake to think that hysterical manifestations are an integral and necessary part of the emotional syndrome; they can appear independently of all emotion; and the emotional syndrome has nothing in common with hysteria.
- 4. Psychic factors to which war neuroses in general have been attributed—fright caused by danger from projectiles, horrifying sights, etc., play a part only in the acute emotional syndrome; hysterical phenomena are not directly produced by them.
- 5. Those disorders which develop at the front and are in the direct expression of violent emotion are never of long duration; the intensity of their manifestations subsides rapidly and almost all cases can return to the front within a few days.
- 6. Speaking with special reference to my experience, the mainspring of hysterical conduct consists in a concealed, illicit, morally untenable motive.
- 7. Its most frequent variations are: (a) To evade the law of conscription, (b) To procure

rejection for physical unfitness, (c) To evade dangerous, disagreeable, or difficult duty, or to evade all duty, (d) To procure the ease and privileges of hospital care, (e) To procure discharge on certificate of disability, (f) To procure compensation for disability.

8. Illicit motive and it alone is the factor which actuates hysterical conduct.

9. Statements which have been made to the effect that war neuroses had not been observed in previous wars in such large numbers are probably not in accord with facts.

10. The factors to which patients themselves attribute cures are apt to be trivial and inadequate.

11. According to my experience, the particular method of therapy is a matter of comparatively little importance.

12. In cures the following factors are frequently seen to be operative: (a) Medical officers impressing patients in such a way as to preclude any hope of successful imposition, (b) Demonstration of the unreal nature of the disability, (c) Strict discipline as opposed to sympathy, coddling or humoring, (d) Painful or otherwise disagreeable treatment, (e) Removal of motive by change of situation.

13. Many spontaneous cures occurred in previously refractory cases, en route to the United States and later on the signing of the armistice.

14. Among circumstances contributing to the prevalence of war hysteria is gullibility of the medical profession:

15. Military law places medical officers in a difficult position. They must either designate the disability by some respectable name, such as hysteria or psychoneurosis, or make a diagnosis of malingering and have to prove criminal intent.

16. All are agreed as to there being a close similarity in the clinical manifestations of hysteria and malingering and as to there being great difficulty in practice of establishing the differentiation.

17. A search through the literature reveals but one point to which the differentiation is generally fastened; namely, conscious or unconscious quality of the motivation.

18. My own experience and study lead me to the conclusion that what some have described under the name of hysteria and what others have described under the name of malingering are one and the same thing. The difference seems to be entirely one of point of view.

19. War experience has shown that hysterical manifestations can be actuated by motives other than sexual.

20. The essential feature of the hysterical personality seems to consist in a character defect.

21. I would banish from medical classification such euphemisms as 'hysteria,' 'shell shock,' 'traumatic neurosis,' etc. and would also banish the expression 'malingering' with its implication of crime for which the responsibility is entirely on the patient.

22. I would designate, instead, the cases in question by the term constitutional psychopathic state, simulation.

23. The cases classed under the heading of neurasthenia may be roughly divided into two groups. The first represents a condition allied to the manic-depressive psychoses; the second is characterized by vague general hypochondriasis, may often be shown to be motivated exactly in the manner of ordinary hysterical manifestations and is, to my mind, but a special type of hysteria or simulation.

24. My experience has amply shown that the possession of native intelligence far above the average and good educational and social opportunities are not incompatible with hysterical character defect and with gross lack of moral sentiment.

25. These cases show what remarkable stability a normal neuropsychic constitution has and how inadequate etiologically, in the absence of a neuropathic predisposition, are the factors to which psychoses and psychoneuroses are so often attributed.

(Arch. of Neurol. & Psych., Oct., 1919, Rosanoff).

The Futility of Bridging Nerve Defects by Means of Nerve Flaps. By Byron Stookey, A.M., M.D., Maj., A.M.C. Surg., Gyn. and Obst., CVol. XXIX, September, 1919, No. 3.

1. The repair of nerve defects by means of nerve flaps has not been definitely supported clinically, as evidenced by a critical study of the reported cases.

2. Experimentally it has been shown that nerve flaps do not serve as conducting paths for the down growing neuraxes.

3. Nerve flaps whether central or peripheral are merely degenerated partial nerve segments. Continuity and union of neuraxes does not take place at point of suture.

4. To avoid fallacious deductions it is important to distinguish between the level of the injury to the nerve trunk and the level at which muscular branches arise.

5. Abnormal communicating branches are not rare, particularly between the median and ulnar. Such anomalies must be taken into consideration in any careful study of nerve injuries.

6. Judging from the level of the lesions, muscles may not be presumed paralyzed but should be demonstrated paralyzed.

7. Total movements may not be offered as evidence of return of function. The action of individual muscles must be given.

8. Reports of peripheral nerve injuries, to be of value, must be accompanied by motor, sensory and electrical findings.

9. By the formation of nerve flaps from the central stump a portion of the nerve from which neuraxes must grow is removed. Distal as well as central flaps may sever muscular branches. By reversing the flaps they are taken out of their field. Thus the downgoing neuraxes are prevented from reaching the muscles through these muscular branches, even were regeneration to take place.

10. The nerve flap method to bridge nerve defects should be discarded in peripheral nerve surgery.

(Leo C. Donnelly, Detroit.)

Restoria.—"Restoria for Bad Blood" is sold by the Restoria Chemical Company of Kansas City, Mo. It is sold as a sure cure for syphilis, but is also recommended for rheumatism, kidney trouble, lumbago, eczema and catarrh. The A. M. A. Chemical Laboratory reports that Restoria contains no mercury or arsenic but does contain iodid, probably as potassium iodid, equivalent to 1.693 gm. per hundred Cc. It also was found to contain much vegetable extractive, some alkaloidal drug and a bitter oil or oleoresin (*Jour. A.M.A.*, Aug. 9, 1919, p. 438).

Don't Fail
to
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regularly.

You CAN NOT afford
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That
Means
YOU



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Diethylbarbituric Acid, introduced as Veronal. Barbitol, Abbott, is made right here in America, under license from the Federal Trade Commission. It has been accepted by the Council on Pharmacy and Chemistry. Its purity is guaranteed. Prescribe this unquestionably American hypnotic.

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Barbitol, Abbott (as well as Barbitol-Sodium, Abbott) is supplied in tubes of 20 tablets, grs. 5 each; bottles of 100; and in powder form in 1 ounce bottles.

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AUTOGENOUS VACCINES—WASSERMANN TEST

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PATHOLOGICAL & BACTERIOLOGICAL ANALYSES

— — — — —

THOMAS L. HILLS, M. S., PH. D.

DIRECTOR.

4TH FLOOR POWERS THEATRE BLDG.

GRAND RAPIDS, MICHIGAN

Dr. W. K. McLaughlin announces the resumption of the Hygeia Hospital service for the correction of narcotism and alcoholism.

Patients are referred to us through the medical profession. The physician referring the case is the only physician that sees the case. We do not use hyoscine in treating the drug habit. We obliterate the craving. Separating the user from his drug does not constitute a treatment; the craving must be destroyed.

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There's A Reason

Dear Doctor:

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EXACTLY. BUT YOU CAN SAFELY RELY ON THE ADVERTISING PAGES OF YOUR OWN STATE JOURNAL. THERE IS A STATE AND A COUNTY ORGANIZATION BEHIND EVERY ADVERTISEMENT IN YOUR JOURNAL—PREPARED TO SEE THAT YOU GET THE GOODS AND THE SERVICE.

THERE'S THE REASON WHY YOU MAY SAFELY PATRONIZE YOUR OWN ADVERTISERS.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XVIII

GRAND RAPIDS, MICHIGAN, NOVEMBER, 1919

No. 12

Original Articles

VARICOSE ULCERS OF THE LEG; CAUSES, COMPLICATIONS AND CONSERVATIVE TREAT- MENT.*

JOSEPH VAN BECELAERE, M.D., LL.B.

DETROIT, MICH.

Before proceeding with the subject of this paper I wish to offer you an explanation of the particular "...ology" I sail under. Those among you who remember their classics, readily will trace back the term "heloologist" to the Greek word "helkos," an ulcer, while the others are liable to shy at the very first syllable that sounds like..... well, I won't tell you what it sounds like, on account of the ladies. (God bless them!) whom it will no doubt remind of the Kaiser's place of ultimate consignment.

In the course of my voluminous reading I have come across the statement that a good medical paper is not so much that one describing a clinical curiosum nor yet a therapeutic novelty as that which brings to mind clinical facts neglected, overlooked perhaps or even forgotten. Let this be my sole excuse for opening up today before this meeting on a subject so threadbare as that of varicose ulcers of the leg.

It has been said of Woman, as an entity, that she is of infinite possibilities, and that "the more you study her, the less you know her."

Now, since on the one hand "Mankind embraces Woman," both properly—and sometimes improperly—and since on the other hand Infinity constitutes one of the divine attributes, I hold that Woman's infinite variability constitutes the best proof of the "Divine origin of Man."

This elusiveness of Woman, as a sex, applies in a large measure to varicose ulcers, with the saving clause however that while Woman, per se, constitutes a hopeless problem, diligent, pertinacious application to the study of varicose ulcers may bring a modicum of understanding of the subject.

Another occasional similitude to "the female of the species" is that a varicose ulcer is "a stubborn fact," a very stubborn fact, bounded on the north by varicosis, on the west by parastasis, on the south by kataptosis and on the east by therapeutic inefficiency.

All the slides in this series were made from original photographs taken by the author with the same hand-camera, at the same distance, so that the prints afford correct data for dimensional comparison. All patients were healed in due course of time, except one case of septic ulcer of long standing, in an alcoholic, age 32, who died of intercurrent pneumonia at a time when his lesion was more than three-fourths healed.

The term "healed" is used advisedly: Because the lesion has obliterated, patient is not in reality "cured," insofar at least as the possibility of recurrence is concerned.

None of these patients were necessarily confined to bed while under author's care, the entire plan of treatment being directed toward "keeping them in circulation."

Varicosis is the result of permanent dilatation of the veins, *kataptosis* the downward trend of liquids in the leg; *parastasis* the stagnation

of these liquids, and therapeutic inefficiency the consequence of poor clinical differentiation. Without intentional pun we may define an ulcer, taken as a *whole*, as "a tegumentary loss of substance that fails of normal repair." The lesion must be tegumentary, that is to say affect



A case of marked kataptotic infiltration, without apparent varicosis, ectasis being entirely of the interstitial or deep variety. Entire leg infiltrated, deformation reaching from garter to toes. Compare both legs as to size: left one appears almost twice the size of its mate.

Pigmentation affects entire lower half, and is less marked over the crest of the tibia, because here the intimate adhesion between skin and underlying aponeurosis prevents extensive deposit of hemochrome. Actual dermic lesions are of comparatively insignificant import.

a surface normally covered with epithelial investment, as for instance the leg, the gastric mucous membrane, the cornea.

Where the healing process begins immediately after occurrence of the lesion and proceeds uninterrupted to complete repair, there can be no talk of "ulceration," since—however tardy

*Read before the Medical Section of the Michigan State Medical Society, May 22, 1919.

the healing—we lack the primordial requisite of chronicity.

Ulcers have been variously classified:



The pre-ulcerous stage in "ankle sores." There is marked permanent dilatation of the safena magna at ankle, and the post capillaries at inside of foot, along the sole. Large venous convolute covers ankle area, and dermatosclerotic submalleolar tissues are corrugated, retracted, almost cicatricial in character.

Extension and accentuation of this process gives rise to what I have called "cicatricial racemations," veritable interstitial cicatrices of non-traumatic origin. Inflammation of these foci may be followed by an ulceration that heals only when the entire fibrous mass has undergone sphaeculous elimination.



This represents one of these ulcerations in process of development. Note the absence of obviously dilated veins, the corrugation of peripheral margins, especially at lower and anterior edges of lesion.

1. According to location: ulcers of the leg, of the stomach, the cervix, etc., regardless of pathogenesis.

2. According to cause: venereal, varicose, herpetic ulcers, for instance.

3. According to some prominent (often immaterial) characteristic: verminous, callous, gangrenous, putrid, phagedenic ulcers, etc.

The one, single, main, ever present essential



Another case of the same nature, farther advanced. Here we have venous dilatation of the safena magna and tributaries, more marked than in the preceding instance. Note especially the tenuity, wrinkling and immobility of the marginal structures, bound down by the dermatosclerotic process.



In this patient, while the actual erosions are less obvious they have extended over a larger surface. Here again the affected skin is almost comparable to coarse grained morocco leather.

of the truly ulcerous lesion however, is a tendency to indefinite persistence, despite of, perhaps even *because of* therapeutic interference.

By reason of its enormous clinical preponderance that form of ulceration, hinging upon vari-

cosis, and which occurs at the leg, has become the prototype of its kind, so much so that not only the laity but also many of the profession at the mere mention of an ulcer visualize the typical varicose ulcer of the leg. Still a mo-

protean form, offset only by multifarious variations of incidence; the tubercular variety possible of quite as many vagaries; the serofulous tegumentary lesions occurring in the most unexpected places, and so forth.

Of all the many clinical names in use none perhaps is so pregnant of meaning, so well chosen, so completely sufficient as the one under consideration, for condensing in two words both the name and the pathogenesis of a disease; A varicose ulcer: an ulcer complicated with



While this is not a typical case of cicatricial racemation I have introduced it in this series on account of its peculiar location—almost on the heel—in the post-malleolar zone.

The bulging at lower edge of calf is due to the presence of a large convolute of subdermic varices. Note moreover the venous dilatation parallel to the edge of sole, below the lesion proper.

Site and character of this lesion affords a transition to the typical varicose ulcers that follow.



This is a fine example of the single, inflammatory, paramalleolar ulcer, occurring in a patient bearer of deep varices, and without apparent phlebotasis or dermatrophic changes. Persistence of the dermic peninsula gives the lesion an apparently "horse-shoe" tendency, tho there was no trace of lues in the case.

ment's reflexion will recall many other kinds: the syphilitic ulcer for instance, of numerous



This is an atonic varicose ulcer in which the parastasis extended from garter to toes. Instep almost obliterated, despite fact that photo was taken after application of first antistatic dressing, as witness the impress of antistatic deligation.

Patient was a bulky, sloppy farmer-wife, and lesion alive with maggots at the first dressing.

varicosis, whether as a causal factor as commonly believed since before the days of Hippocrates, or as a consequence of the lesion, as held by J. L. Petit (1837), Benj. Bell, Underwood, Everard Home, Vidal de Cassis, Clero (thesis 1841) and Jousseau (1852), I shall not here attempt to determine.

Like all other forms of ulceration, the primary cutaneous varicose lesion is the result either of a traumatism or the consequence of an



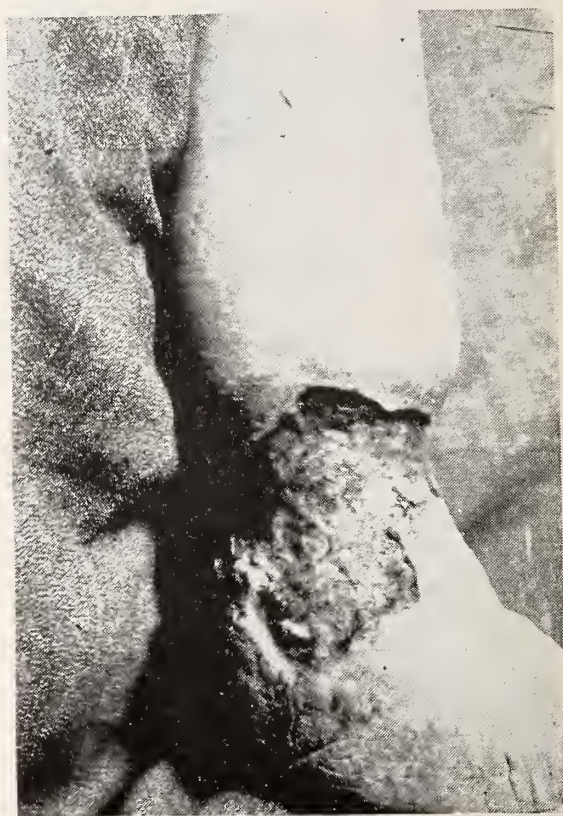
This ulcer of distinctly varicose type is complicated with marked dermatrophic changes at the inner ankle, lower half of leg. Varicose ampullae distinguishable along safena magna, as also the tendency to develop areas of agminated pigmentation, especially over instep, and in retro-malleolar space. The marginal edges are callous, fundus relatively smooth, and there is entire absence of exudate on the surface.



Another instance of extensive callous ulceration covering entire ankle region. Fundus pale, lardaceous, edges cartilaginous, lipped, marginal wall obliterated and merging into fundus proper. The remaining, persisting dermic peninsulæ were precursors factors in ultimate healing.

endogenous pathologic process, a thrombosing varicophlebitis. In the first case the wound, large or small, does not undergo the normal processes of repair; in the second it occurs as a sequel to pre-ulcerous conditions, themselves consequent upon kataptosis, and which materialize in the form of dermatitis, eczemata, various dermatoses, and most often as a capillary thrombophlebitis, which after coalescing with the superincumbent derma, ruptures by disintegration of the vessel wall and becomes ulcerous.

Under the stress of continued unrelieved kataptotic pressure the fundus of such a lesion



In this instance we notice an enormous degree of parastasis, a veritable elephantiasis limited however to the foot and instep. Lesion in this case completely circled the leg above the ankle region.

Observe the thick marginal wall in post-malleolar region, and especially the "bagging" of the skin above ankle. This is not due to edema but to hard, brawny infiltration of kataptotic nature, constricted below by pronounced sclerosis of the marginal rim. The disposition of draperies tends to mask this feature, the leg at lower edge of calf is almost twice as thick as at the calf proper.

undergoes molecular gangrene, sloughs away and becomes infected; the marginal edges further break down as the result of trophic disturbance and impaired nutrition, and the fundus, extending in depth and surface, at last acquires the dimensions shown in some of our illustrations.

I do not here propose to conduct you into speculative pathogenesis, nor shall I fatigue your attention with detailed pathologic minutiae, how, for instance, the development of mesophlebitic plaques hinges upon a deposit of bacterial alluvia, even though the concept of mesophlebitis, occurring as a terminal metastasis of focal infection, opens up a most promising field of pathogenic speculation.

As to the possible complications of varicose ulcers of the leg, their name is legion, for in this field we meet up with the whole gamut of pre- and para-ulcerous conditions; the various



This slide presents a distinctly septic ulcer of long standing in a poor devil who by reason of matrimonial difficulties had for a long time persisted in seeking solace in the "flowing bowl." A heavy drinker as already stated he fell an easy victim to double pneumonia after spending most of a hot afternoon lying on the cool grass.

Note the thick, almost turgid, condition of the projecting peninsula, and the fundus bulging over the tibial crest on account of underlying hypertrophic osteo-periostitis. Cicatricial retraction at the upper border of lesion evidently interferes with circulation. Pigmentation, and especially congestion, reach up to the region of the garter.

dermic, vascular, nervous, periosteal and osseous complications featuring the sequelæ of underlying varicosis. An exhaustive consideration of all these would lead us too far afield, and I shall therefor limit myself to the cursory mention of those complications interfering directly



Here we have an interesting, and rather uncommon condition, an ulcerated thrombophlebitic ampulla, in which the adherent, overlying derma was destroyed and the fundus of the lesion constituted by a central vascular wall. The small adventitious lesion, below, is of little clinical import. At first blush the case might be considered as luetic on account of its peculiar location high up on the leg, and the apparently complete absence of typical varicosities.



This patient presents obvious distension of the safena magna, and a dermic infiltration of quasi edematous character, as witness the impress of elastic stocking worn at his first visit.

The comparatively small dimensions, thin, lipped edges, scant peripheral pigmentation, scarlet fundus and absence of exudate all point to the inflammatory character of this lesion. Incidentally, let me emphasize the mistake of wearing elastic hose over an open lesion.

with repair of the lesion. Chief among these are complications of inflammatory nature, which in the light of modern pathogenesis are attributable to septic infection: inflammation, erysipelas, angioleucitis are no different here than when



Here we have an instance of typical inflammatory lesion of kataplotic nature. The varicose syndrom is exiguous, and mostly of interstitial character. Inflammatory congestion is limited to the immediate periphery, and there is remarkable absence of exudate at the surface of a rather irregular, hummocky fundus,

occurring in other wounds, and in the main passible of the classic treatment. They are comparatively rare of incidence however, for ulcerations are providentially immune to sepsis, and when inflammation *does* occur in a chronic ulcer, it is really in the nature of "a blessing in disguise," often stimulating and activating the reparative process.

Hemorrhage is due to an extension of the ulcerative erosion to some ambient vessel-wall, and is almost always of *venous* origin. (In the course of an experience extending over thirty years, and including more than three thousand cases, I have never met with a truly *arterial* hemorrhage.) Elevation of the leg and firm local compression are always competent to cope with the difficulty.

Septic thrombophlebitis is generally confined within a vascular segment obliterated at both

ends, and if *suppurating*, runs the usual course, and requires no more than the treatment indicated in localized abscess. Suppurating endophlebitis of the *patulous* vessel however constitutes a chapter in itself, and its consideration would lead us beyond the scope of the present paper. Nor shall I detail the various par ulcerous conditions, the polymorphous dermatitides: eczematous, ecthymatous, erosive, etc., the study of which really belongs in the domain of underlying parastasis.

Of all complications incident upon varicose ulcers of the leg, *hyperesthesia* is perhaps the most distressing and for the relief of which patients are at once most clamorous and most profoundly grateful. While excessive tenderness may develop in an ulcer wherever situated, it is perhaps more distressing and less amenable to relief when affecting a lesion of the par- or submalleolar regions, and such "ankle-sores" have at times given me no little concern.

Anatomically the pains may be due to direct involvement of the *nervous elements*; neuralgia, neuritis, interstitial varicosis of the nerve itself, or to *septic infection* of the fundus proper, and especially of the periulcerous tissues.



Another instance of an inflammatory lesion, recurring for the second time in exactly the same place, and with the same outline as at first. This would tend to show that the configuration of any given ulcer is not a mere caprice of nature, but a consequence of certain unknown factors (circulatory, neurotrophic or others).

Patient shows no superficial varicosis, and is powerfully built. The zone of congestion is quite broad and appreciable, and in the main follows the outline of the lesion proper.

Here again irregular contour and atypical site of the sore might induce an erroneous diagnosis of luetic origin.

There is another form of ulceration, however, which is preeminently passible of hyperesthetic complications: I mean *that one* based upon the necrobiotic disintegration of interstitial dermatosclerotic foci.

Patients affected with long standing varicosis often present in the paramalleolar zones veritable close-meshed reticula, or even solid plaques of intradermic cicatricial formation, independent of any previous ulcerative process, and liable to endogenous infection from the accretion of blood carried bacterial deposits. Subsequent inflammatory changes occurring within or about such nodes of "cicatricial racemation," and predicating as they do congestion and infiltration of unelastic, inextensible structure give rise to most excruciating pain due to local mortification. Long before the stage of actual ulceration has obtained, patients are desperately clamoring for a surcease to their suffering. Hot

applications, (moist), increasing the local blood supply, and a recumbent posture with elevation of the foot above the knee level (thus combating the parastatic factor) are perhaps the most efficient means of relief at our command in this



In this patient the parastatic infiltration is enormous, as witness the crease in the skin above the heel. The large ulceration across malleolar region is due to coalescence of many smaller ones, with simultaneous persistence of dermic islands in the fundus. The multiple ulcuscules at lower half of leg are evidently due to pyogenic infection of parastatically eczematous lesions. It is probably due to the existence of these numerous discharging exutories that we have here to contend with but a moderate degree of inflammatory congestion.



These extensive, varicodermic lesions of eczematous nature presented in a tall, spare-built man about 70 years of age.

The upper dark area was more in the nature of a keratolytic lesion, probably traceable to decomposition of a lard-base salve applied by himself during an extremely hot spell of canicular weather.

period of the trouble. I have seen cases in which chloral hydrate internally, or the hypodermic use of hyoscine hydrobromate and even morphine were alone capable of controlling the patient. "Nerve blocking," so successfully used in oral surgery by my friend Dr. Charles Oakman, of Detroit, might perhaps afford relief in desperate cases, but I have no personal experience in the matter.

As soon as elimination of the sphacelus is initiated, and erosion of the tegumentary structures takes place, the indication arises for local anesthetics; hyoscine, cicutine, belladonna, hyosciamine, morphine, opium, cocain solutions, and the various synthetic substitutes for the latter; all these in powder form, or ointments of varying percentage. Cocain is a two edged

sword, however, and while it relieves pain for a time, there is often a tendency to recurrence in aggravated form; and the use of the synthetic substitutes, orthoform especially, has been known to cause extensive subsequent sloughing in some patients, while to others it has proven to be a veritable God-send. There is perhaps in the whole field of heliotherapy no one condition requiring so much resourcefulness and adaptability as this very problem of coping with hyperesthetic ulceration.

Treatment.—As already stated a varicose ulcer is a tegumentary loss of substance, complicated with varicosis, which by reason of its resistance to the various means adduced for hastening its repair, truly deserves to be called "the bane of the profession." Innumerable topical applications have been attempted for its cure, and some day, when time lies heavy on your hands I should recommend a study of the compendious, though by no means exhaustive list of remedies enumerated by A. Winkelried Williams, in a most excellent and illuminating ar-

ticle published in the *London Lancet*, 1913, v. 2, p. 1015.

Always on a still hunt for specifics, the profession have attempted everything possible and impossible along therapeutic lines, the bolder,



Here you see a sore of an entirely different type: with thin, bluish edges, edematous water-logged fundi, no apparent katap-tosis or obvious parastatic infiltration. The lesions are comparatively large, separated by wide dams of apparently healthy skin; the marginal edges narrow and everted: a fine example of scrofuloderma at the ankle.



Here again varicosis was exclusively of the deep intramuscular type, the discoloration you notice, due to congestion more than to pigmentation. Edges of the lesions are thin, serrated, the marginal walls low, the fundi multiple, large, congested, but not waterlogged, or edematous. The diagnosis clearly points to a case of inflammatory varicodermatitis. Compare this lesion with the one immediately to follow.

more aggressive element—the surgeons—even seeking a radical cure by numerous operative procedures mostly rejuvenated from the dark ages. Mayo's operation, for instance, was performed by Oribasius, more than fifteen hundred years ago; Trendelenburg's is a revival of the procedure of Celsus; Madelung's method was practiced in the time of Galen, and Schede's operation is copied from Aetius, twelve centuries ago. Circumvalation of the ulcer, improperly called "circumcision," originated about the year one of our era with Celsus, and Rindfleisch's brutal "corkscrew cut," the spiral incision method, is but an extension and exaggeration of the incisions preconized by Abulcasim, of the Arabic school.

Nor shall I burden you with the numerous variations introduced at other hands.

To the surgeon who, perforce, keeps his patient in bed for weeks perhaps after his operation, the argument "*post hoc, ergo propter hoc*"



In this instance the chronic varicose ulcer has gradually encircled the entire leg, except for a narrow dam persisting at the calf, as will appear from the next picture. Perhaps on account of extent and relatively short duration of the sore, lesion having reached its present dimensions within a few years, abundance of discharges may have afforded adequate drainage and prevented marked parastasis. Note the almost normal "profile" at instep. Also the sphacelous area near lower edge of sore.

offers an almost insuperable temptation, and he sanguinely refers to his operative intervention the felicitous results that most probably would have followed simple, protracted recumbence in a horizontal posture He discharges—and promptly reports as cured—such patients as later come under my care with a recurrence, and sometimes an aggravation of their former trouble, disappointed, discouraged, disgusted perhaps at the futility of surgical intervention.

From statistical data collected by Görlich in 1904, in the surgical wards of von Bruns, of Vienna, it appears that in about 20 per cent. of Trendelenburg operations relapse occurred within two years, while a scant 4 per cent. of the patients remained cured after a lapse of from seven to ten years!

I remember off hand two cases occurring in my own practice, in whom the wounds made

by the surgeon, excising the veins, became ulcerous and failed of normal repair. Cases of this kind are the more stubborn for lacking their normal circulatory facilities, and are indeed a test of therapeutic efficiency. Incidentally I am able to report both as cured, without relapse, after the course of many years.

As for me, I have long since given up all attempts at curing varicose ulcers of the legs by excision of the veins. "Remove the cause and the effect is gone," says the proverb. Experience, however, has demonstrated—to my satisfaction at least—the fallacy of this dictum. Granted that obliteration of the varicose vessels causes a temporary suspense of kataptosis, unpreventable early dilation of collateral channels will unavoidably reproduce the former trouble, with the additional disadvantage of a surgically restricted return flow. A sick man contributes at least a modicum of labor, a dead one is useless. The same applies to the veins: the dilated, varicose, ampullar if you please, they



This is a posterior aspect of the leg in previous slide. Entire circumference of the leg was ulcerated, except for this narrow strip of persisting skin. Observe the cicatricial character of integument at the wider, upper end of dam. The leg is half hidden, with patient reclining in bed. Some people never know when they have enough, and this patient sported another enormous ulcer at the inner ankle of the other leg.

still do some part of the work, while after their extirpation or obliteration the total onus falls on the few remaining vessels that have escaped the surgeon, and fail the sooner of their physiologic efficiency for having to perform so much additional work.



This slide shows one of my earliest patients. Tho the ulcer absolutely circled the entire leg, and had persisted for twenty years or more in this poor washerwoman, who had to rest her knee on a chair while standing at the tub, thanks probably to the large islands of derma persisting in the fundus, healing was completed in less than two months. As usually, this patient, once rid of her trouble, neglected proper precautions, and her leg broke open again, in the same place, manner and extent as before, but again healed quite as readily.

So that in order to be fair to ourselves and the patient we are in reality restricted to the use of local topical and physiotherapeutic means, for the treatment of varicose ulcers of the leg. Nor is this a confession of therapeutic indigence. Of course the less you expect from internal medication the smaller shall be your disappointment: Mercurials, (as recommended since Underwood's time), salines, purgatives, and quinine salts have no curative action on ulcers of the leg. Ichthyol, as introduced by Unna (Hamburg) and his followers, is perhaps the only medicinal agent still exhibited for internal treatment of varicosis and its sequelae; and its *perennial* use is claimed to cause regression of the dilated veins and varicose ulcers by simultaneous reduction of arterial pressure and increase in venous tone. (Nobl.) Tavel, of Berne, further advocates caffeine as an adjuvant to local surgical intervention.

Treatment of the lesion itself is effected along chemical, physical and surgical lines. Mercurial salves and plasters, with or without addition of lead, often cause exacerbation of the lesion the more as eventual decomposition of their animal base tends to increased irritative manifestations.

Profuse discharges can be checked, and elimination of necrotic shreds activated, by the local use of liquid antiseptics: Goulard's or Burow's solution; alcohol, bichloride, $\frac{1}{2}$ per cent. resorcin or silver nitrate packs, under sheet gutta or oiled silk, soon overcome secondary germ life, and effect a cleansing of the granulating surface. When moist applications are contra-indicated or cause local irritation, the various dessicating antiseptic dusting powders come into use.

Atonic ulcerations are preferably cleansed with astringent solutions of alum, zinc or copper sulphate, the silver salts, or the organic astringents: $\frac{1}{2}$ per cent. sol. of tannic acid, etc. Hydrogen peroxide is efficient not alone through



One of my patients with hitherto unhealed operative wounds. Scars of former excisions obvious. These two lesions resisted treatment for months, and finally patient drifted into my hands. Tho there was no infiltration of the skin, kataptosis was a dominant factor, and had to be overcome before a permanent healing took place. Note the pigmentation outlining incision scars, and the peculiar disposition of pigmentary deposits at ankle.

its mechanical influence as a "searching" cleanser, that penetrates all anfractuosités, but especially by causing local hyperemia and oxidization.

Under the head of physiotherapeutic means we have massage, hydrotherapy, hot air baking, carbon dioxide snow, (Pusey-Chicago), electrotherapy, phototherapy, Finsen's apparatus, the mercury vapor quartz lamp, radiotherapy, but most of all, effectual compression.

As to the local surgical procedures, aside from and independent of the unjustifiable excision of the varicose veins themselves, I shall mention deep lateral incisions (introduced by Lisfranc), circumvallation of the ulcer, excision of the marginal walls, curettage and excision of the entire fundus and dermoplastic operations after the methods of Reverdin, Krause, Thiersch, and Beck-Chicago.

Of all the plans of treatment advocated, graduated, methodical compression,—*antistatic*

deligation—has proven the most reliable, as well as the easiest of application. It must, however, be *competent* and *adequate*, in other words effect an appropriate contention of the leg, and control of the local circulation. Numberless patients have warned me that



In this patient, affected with both deep and superficial varicosis, the dermic changes approximate the characteristics of dermatosclerosis; scant pigmentation, mostly at the peripheral portions; peculiar "hidebound" condition all around lower third of the leg; scar ulcer over tibial edge.



Judging merely from site and shape of lesion in this case one would most probably deem it of luetic origin. Still, on account of the atonic, anemic aspect of the fundus, the dermatrophic periphery, the apparition of a scar ulcer at the upper corner, and especially the entire absence of any recognized luetic stigmata, patient underwent a successful cure by the antistatic, compressive method.

"no bandages stay put on their legs," that no sooner had they left the offices of doctors X. A. or Y., but their bandage was down about their ankle; that they could themselves do a better job of bandaging, etc. This goes to show that not even the greatest surgical skill will take the place of moderate technical achievement. Nor can this apparently trivial factor be slighted: either your antistasis and circulatory control are adequate and competent, the parastatic and kataptotic factors neutralized, and your topical application allowed to work to advantage, or else your deligation is inadequate, incompetent, and all your change in topical treatment proves useless. It is for having so long disregarded this essential feature in the treatment of ulceration that the profession have been led into the empirical use of thousands of disparate applications, ranging from zinc ointment to the local use of bovine amniotic fluid.

But whether we pin our faith to the use of adhesive strips as recommended by Baynton in 1799, or to the prehistoric roller bandage, the-



This is an ulcer of another type, of what might be called the "girdling" or "garter" variety. Observe the marked infiltration of the skin, the overhanging upper edge, the depth of marginal wall, the trophic changes at periphery, both above and below the lesion proper.

The upper edge was almost cartilaginous in consistency, and the sore demanded energetic, protracted antistasis before it healed for good.



Here we have an enormous, long standing parastatic infiltration. Note the pachydermatous, elephantastic condition of the skin, which is gray, corrugated, lichenified. The lesion, as in previous cases, extends practically all around the leg, only a narrow dam connecting the "sock" to the "legging."

Observe especially the thick, overhanging edges, both over instep, and below the calf; also the island of skin persisting in the fundus, and the large varix below the bend of knee.



A companion piece to the preceding. Parastatic overhang beautifully marked at both points: calf and instep. Here the infiltration is most marked in the submalleolar area, and at the instep, where the skin is absolutely "leathery."

Note especially how the thick, shelving marginal wall over the instep, tends to merge into the fundus proper, and also the undercut appearance of upper edge below the calf.



This represents the largest hypercsthetic ulceration I have met up with to date, and occurred in a varicose multipara. The shallow lesion, probably due to eczematous varicodermitis, was gaining like wildfire. Note especially the new focus of recent occurrence in upper marginal edge, also the less typical one at lowest sector.

Treatment was mainly with orthoform new, locally, which providentially proved almost unirritating in this case.

one, certain, positive, unavoidable fact is that in order to insure success we must ourselves attend to the job, for as I have elsewhere stated:

“In helkology, more perhaps than in any other part of the medical field, it is attention to the small, unobstrusive detail, the desultory, evanescent clinical finding, that spells all the difference between complete, radiant success, and unheartening, dismal failure.”

This above all—and it is a matter of world experience—see your cases early, the sooner the better, and attend to every detail *yourself*.

Lack of time compels me to confine my paper within the restrictions of a limited program: hours could be spent in the profitable study of reparative processes: cicatrization and epithelation for instance; of the various chorioplastic and keratopoietic agencies; of the numerous anaplerotic and epulotic applications, were it not for the limitations imposed by a program already crowded.

400 Dix Avenue.

TYPHOID FEVER.

A. R. HACKETT, M.D.

DETROIT, MICH.

STATISTICS SHOWING VALUE OF
TYPHOID VACCINE GIVEN
DURING THE INCUBATION
PERIOD.

Number of Diarrhea Patients	142	
Number of Patients given Vaccine	128	
Number of Diarrhea Patients given Vaccine...	77	
Number of Typhoid Patients	26	18-44/142%
Number of Typhoid Patients that had received Vaccine	4	5-15/77%
Number of Typhoid Patients that had not received Vaccine	22	33-55/65%

Note:—Of the 4 typhoid patients that had received Vaccine two of them had received two doses each, two of them had received one dose each. All four of these run very, very mild courses.

typhoid epidemics we were called upon to handle recently, one occurring in the spring and the other in the fall. In each case the typhoid epidemic was preceded by a severe epidemic of gastroenteritis which was directly traceable to the water supply and in this connection I want to point out the dangerous menace the contaminated water of the Detroit river is to those living near its banks, especially the towns farther down. In fact in the last three years, the hospital has not at any time been entirely free from cases of this kind.

In the spring epidemic there was something over 125 cases of gastroenteritis. They had the usual symptoms of sudden onset; vomiting, severe diarrhea and abdominal pain. These as a rule cleared up readily under treatment, but the nature of the infection led us to suspect that we might have to deal with a typhoid epidemic at the expiration of the proper incubation period. This proved to be the case and in the space of a few days, there were twenty patients admitted to the hospital suffering with typhoid fever. These all ran the usual course and all recovered with the exception of two; one dying from a complication of appendicitis for which he was operated and the other from hemorrhages.

In the fall epidemic about the same conditions occurred. Early in December, the first few cases of gastroenteritis appeared and for several days there were an average of eight to ten cases appearing daily for several days, gradually getting less in number as the days passed. These presented the same symptoms as those in the first epidemic and were treated in the same way. As a rule they yielded as readily as the first cases, but at the end of the same incubation period typhoid fever cases began to appear and in the space of a few days twenty-six cases were again admitted to the hospital. These ran a much more severe course and four of them died of complications as follows, two from hemorrhage, one from intestinal perforation in which operative procedures were refused and one from exhaustion following a severe diarrhea and delirium.

Having gone over the history of the epidemics briefly I want to take up and discuss a few points we thought were of value in the diagnosis, and the treatment of these cases, and to help in presenting this in a graphic way, I have had a few slides prepared, in place of the usual charts.

In presenting this paper I do not know that I will bring out any new points, or say anything that has not been said already about typhoid fever. My main object is to point out a few things that were of special interest during two

DIAGNOSIS.

Usually the diagnosis in these cases was comparatively easy to make. The history of having had the primary colon infection and the usual symptoms that occur during the onset, such as malaise, headache, backache and loss of appetite together with the elevated temperature, led us to the conclusion we were dealing with typhoid fever.

CHART 1. Chart one shows the percentages in which these different symptoms occurred during this period.

The next thing we found of most value in making an early diagnosis was the blood picture as shown by the next two slides, Chart 2 and 3. In all cases a total and differential white blood count was taken as soon as the patient entered the hospital. One of the interesting things we noticed was the uniformity of these counts and also that the polymorphonuclear cells were usually somewhat diminished with a corresponding increase in the small lymphocytes. This latter condition was exaggerated as the disease progressed. Whenever, during the course of the disease, the reverse condition occurred, it was invariably followed by some complication, such as hemorrhages, infections and so forth. We were of the opinion that this blood picture was of more value in making an early diagnosis, than the Widal, which in the early part of the disease is rarely positive and in some cases not throughout the whole course.

The next two slides, show the symptoms and complications met with during the course of the fever.

GENERAL TREATMENT.

Realizing that there is no specific treatment for typhoid fever other than typhoid vaccine—which in a measure can be considered a specific treatment for it, although its therapeutic value has not been established, the general treatment was chiefly careful dieting, hydrotherapy, vaccine, medicinal and treatment of complications as they arose. In securing a diet for these patients, considering the pathology encountered, it was necessary to secure bland, non-irritating substances and also to counteract the excessive oxidation due to the high temperatures by a diet of a relatively high caloric value which was increased as rapidly as tolerated.

CHART 6. The chart shows in detail the liquid diet given these patients. This had a caloric value of 1005 and represents in two hour feedings all and the only food given for

the first seven to fourteen days or until the abdominal distension no longer continued and the fever was coming down. As soon as it was thought advisable this diet was gradually increased for some patients by substituting an eggnog for the 10 A. M. and 10 P. M. feeding. For others it was changed to the increased diet which is represented on the next chart.

CHART 7. This increased diet contained the full liquid and the other articles as shown giving a total of from 1760 to 1782 calories. If this diet was well tolerated egg-nogs or ice cream were added giving the caloric value as shown. Patients were usually kept on this diet for the remainder of the disease and only when the fever became normal were they increased to the soft diet.

CHART 8. In five patients, first coming into convalescence, a heavier diet than this soft diet was given which included potatoes, some other vegetables and a small amount of meat. In three out of these five patients, the temperature at once rose again. In one of them it seemed to have caused a relapse with a rise of temperature of about two degrees, which continued for fourteen days. We therefore felt it inadvisable to crowd any of the convalescents with anything heavier or more than this soft diet up to the time of discharge from the hospital, and they were then instructed to continue this diet for a week or two at home and add vegetables only very gradually. No more relapses occurred.

You will see by these selections, we were able to give a bland, non-irritating, readily digested diet. This diet threw the least possible amount of work on the intestinal tract and yet supplied a large amount of liquids which provided for the best of elimination. It also supplied a high caloric value, so that very few of these patients developed what was formally recognized as the characteristic typhoid state of great emaciation and weakness, but nearly all of them were in a state of fairly good condition when they left the hospital.

HYDROTHERAPY.

Used on these patients was that of sponging with as cool water as could be tolerated by the patient. First the sponge baths were given with water at a temperature of 80 to 90 degrees—gradually lowering it by wringing out towels in colder water down to 50 or 60 degrees. These sponge baths were continued for about 10 or 15 minutes—some of them 20 minutes. These were given every four hours, whenever the tem-

perature was above 102.6. Only in 1 or 2 patients did this routine form of hydrotherapy do some harm, and the bath was not well taken—such was indicated by increased restlessness, and discomfort after the bath. Most of them reacted very comfortably, giving the characteristic beneficial reactions from the baths, such as lowered temperatures, diminished restlessness, increased ability to sleep, which were expressions of a better elimination and consequent lower toxemia.

VACCINE.

CHART 9 and 10. Was given during the course of the fever to 16 out of 26 patients. These patients received the regular immunizing doses of 500,000,000 the first and 1,000,000,000 for the second and third doses—given from 6 to 10 days apart. In most of them it produces no appreciable rise in temperature or other aggravation of the symptoms. In a few of them there was a temporary rise for a half day of 1 or 2 degrees, with a subsequent fall of temperature and invariably on the second day after the vaccine was given, the temperature began to go down more rapidly than was usual in these cases. It never caused any untoward symptoms, but on the other hand were satisfied that it could well be adopted as one of the routine measures to be used in the treatment of typhoid fever.

MEDICINAL TREATMENT.

The only routine measure used was that of giving American Oil to nearly every one of the patients. The object in giving this oil was that we considered it had some slight antibacteriocidal qualities, chiefly in mechanically hindering the growth of the bacteria, also tending to coat over the ulcerated intestinal tract. It also provided for easy movements of the bowels, without giving any too increased peristalsis. It seems to be especially valuable when the patient complained of abdominal pains. It was then given in 1 or 2 oz. doses, twice a day.

SYMPTOMATIC TREATMENT.

For the diarrhea American Oil was given in from 2 to 4 oz. doses, followed by large doses of bismuth subnitrate, 20 to 60 grains, repeated two or three times. Salol was given in a few cases from 5 to 10 grain doses every 4 to 6 hours. In most of the cases these measures checked the diarrhea, however there were 2 or 3 of them with a very persistent and severe diarrhea in which tannigan was used to good effect.

CONSTIPATION.

Two oz. doses of American Oil were given twice daily. Where this was not sufficient, the dosage was increased to 3 or 4 oz. supplemented by cool enemas. These enemas were also used very frequently in controlling the fever.

FOR THE HEMORRHAGES.

There were two cases of fatal hemorrhages, which were checked up by blood counts showing an increasing anemia. These were given adrenalin and hypodermoclysis and intravenous saline. One or two of them that had repeated small hemorrhages, 1 or 2 every day, for a week or more, received calcium lactate, 15 grain doses every 6 hours.

DELIRIUM.

For the delirium hyoscin seemed to have some value. Delirium subsultus and nervousness seemed to be diminished after it. Chloral hydrate and morphine sulphate and morphine hydrobromate seemed to relieve the delirium only temporarily. In one case the delirium was very severe (No. 18). These temporary measures failed and he only showed improvement after he was given 1000 c. c. normal saline intravenously on three succeeding days.

DISCUSSION OF SPECIAL PATIENTS.

CHART 5. Patients No. 3, 4, 5 and 9 had one or two doses of vaccine before admission.

No. 3 had two doses of vaccine before entering hospital. His complaints were diarrhea, headaches and abdominal pain. He ran only a very slight temperature—his highest was 100. He ran this low temperature for 5 days while in the hospital. There was no enlargement of the spleen, and no typical rose spot could be seen anywhere. His blood count of Jan. 2nd was

Haemoglobin	.....	95%
White	.....	7140
Poly	.....	70%
Large	.....	1%
Small	.....	25%
Eosinophiles	.....	2%

The Widal never became positive.

No. 4—had received one dose of vaccine before entering. He complained of headaches, diarrhea, anorexia, malaise. Few rose spots could be seen. Spleen never could be palpated. He ran a fever for 14 days. He received the 2nd and 3rd doses of vaccine while in the hospital. He was never very sick at any time and recovered without any complications.

No. 5—had received two doses of vaccine before entering hospital. His highest temperature you will note was 101.5. He was only in the hospital for 6 days. Spleen never could be palpated. A few rose spots could be seen. His Widal was positive on Dec. 31st. His blood count on entering was:

Haemoglobin	95%
White	7100
Poly	74%
Large	13%
Small	13%
Eosinophiles	0%

No. 9—had one dose of vaccine before entering. He came in complaining of headaches, diarrhea, malaise and abdominal pain. He ran a temperature for 9 days—his highest was 103.5. Had a slight nephritis. His blood count on Jan. 5th was:

Haemoglobin	95%
White	7850
Poly	75%
Large	10%
Small	13%
Eosinophiles	2%

His Widal test was negative. He ran a very mild case.

Now taking up three patients who ran very severe courses No. 16 you will notice was sick for 37 days. His highest temperature was 105. He had bronchitis, anorexia, rose spots, diarrhea, abdominal pain, he had an enlarged spleen, he had a mild delirium, he had hemorrhages, and nephritis. He had many small hemorrhages. There were bloody bowel movements nearly every other day for the first 23 days of his stay in the hospital. During this time he was given calcium lactate in 20 grain doses, three times a day. Morphine sulphate was given. After the large hemorrhages he would sometimes be more restricted in his diet and would receive large doses of bismuth subnitrate.

Care had to be exercised to avoid too frequent movements of the bowels. For this reason enemas were given very cautiously and American Oil was used a few times in 4 oz. doses per rectum, giving very satisfactory results. His delirium was of a mild nature and called for no special treatment for that, and during his convalescence he seemed to dream a great deal and showed signs of a peculiar psychosis as is sometimes seen following typhoid fever, for about a period of two weeks when it all cleared up and showed no other symptoms.

CHART 11. This patient ran a very severe course. You will notice he ran his first course of fever for about 18 days, then had a subsequent relapse of 16 days. His pulse ranged from 75 to 140. His highest temperature was 106. He had severe headaches, anorexia, rose spots, diarrhea and abdominal pain. No spleen could be palpated on him. He had severe delirium and marked abscess formation.

DISCUSSION OF THE DELIRIUM.

This delirium was very severe. It lasted for 14 days, gradually becoming worse, so much so he was hardly able to take any nourishment. With it there was a marked subsultus, nervousness and restlessness. All the usual methods were used in trying to quiet the delirium, but they were all temporary until 1000 c. c. saline were used intravenously. After each injection the patient would become quieter and be able to sleep for an hour or two. He improved each day and later the third injection was given, he slept well probably 8 hours and was nearly entirely normal on the following morning.

The diarrhea that the patient had was very severe, lasting 30 days and this probably was one of the factors besides the toxemia causing his delirium.

The blood count showed an apparently high increase of the reds 5,280,000 on Jan. 14th, and on Jan. 26th, 4,900,000. Very likely a concentration of the blood was brought about because of the severe diarrhea, this producing a diminished circulation to the brain. By increasing the volume of the blood with the intravenous saline a greater nourishment of the brain was obtained and the delirium which possibly was caused by the diminished volume of blood as much as by the toxemia was greatly improved by the intravenous saline.

The diarrhea was very severe, all the usual methods which had been effective in the other patients, failed on him until a large dose of American Oil—about 4 oz. was given to him—followed by 6 grains of tannigen, repeated every four hours. Within 12 hours the bowels were under control and they never bothered afterwards, evidently tannigen had some real value in checking this diarrhea.

ABSCESS FORMATION.

He had a large abscess form on his right jaw. This seemed to be so deeply situated, that it did not seem advisable to try and open it from the outside and the exact point on the inside of his mouth could not be determined, so after 2

or 3 days with hot applications externally, it finally broke into his mouth and discharged freely. He also had 3 abscesses form on his left arm, at the usual site of giving hypodermic medication, during his severe delirium. These abscesses on his arm seemed to be well encapsulated and healed quite readily after being opened.

OTITIS MEDIA.

On this patient this called for the opening of both ear drums by Dr. Frothingham, they discharged freely for about 2 weeks when the discharging ceased and he had a good recovery. He also had two large strangulated hemorrhoids. It seemed inadvisable to open these for fear of losing more blood. Hot applications and bella donna ointment relieved him somewhat. After a week or two they had gone down to their normal size. We considered this a most unusual case of recovery for a severe typhoid with many aggravating complications.

The third severe case we wish to bring up is No. 21. This man had a course of fever for about 38 days, his highest temperature was 105. He had headaches, anorexia, rose spots, severe diarrhea, with severe abdominal pain; also a mild delirium. There was a question of whether he had or had not a perforation one afternoon. He also had otitis media and abscess formation. His Widal was negative when he entered the hospital probably would have been positive later on. This is a case where the blood count is of real value for diagnosing of the possible perforation and calling for the proper precautions to prevent a spread of the local peritonitis into a general peritonitis. Note blood counts for patient No. 21, especially note the count made on Jan. 21st where you have the marked increased amount of small lymphocytes to 42 per cent., on Jan. 24 you have the differential count changing to 75 per cent. poly, instead of 44 per cent., that meant an enormous increase of the polymorphonuclear cells with the small lymphocytes only 19 per cent. His total white was only 8200, probably due to a slight hemorrhage associated with it.

CONCLUSION.

One of the biggest lessons that we learned from these epidemics was the value of typhoid vaccine, during the incubation period which you will note by the statistics on the following chart (No. 12). From this chart we see that any patient having had diarrhea and receiving vaccine—his chance of getting the fever was

5 per cent., or 1 to 20—while if the patient had diarrhea and did not receive the vaccine his chance of getting the fever, as you will see was 33 $\frac{1}{3}$ per cent., 1 to 3, for you will notice that nearly all the cases of typhoid fever came out of the group that had diarrhea but did not receive the vaccine 22 out of 26.

The second lesson we learned was the great value of the total and differential white blood count taken early in the disease also during the course in watching for complications.

Third—the value of American Oil in the routine treatment of these cases, and also the value of careful diet and of careful nursing.

DISCUSSION.

DR. W. M. DONALD, Detroit: I would like to preface my opening remarks. I could not quite catch the number of patients he had. I could not see the chart from where I was sitting.

THE CHAIRMAN: Fifty-two altogether, doctor. The experience Dr. Hackett has had is in the Delray Industrial Hospital. That is the occasion for his presentation of this paper. The up-river districts. The further you go down, the greater the existence of typhoid fever.

DR. DONALD: All these figures are taken from hospital records?

DR. HACKETT: A special epidemic, directly traceable to one source of infection.

DR. DONALD: Were there other patients suffering outside at the same time?

DR. HACKETT: No, sir.

DR. DONALD: Not only treated by you, but by other physicians?

DR. HACKETT: We treated all of them.

DR. DONALD: There were other cases?

DR. HACKETT: They were all brought to the hospital.

DR. DONALD: Could you trace it to the water supply?

DR. HACKETT: Directly.

DR. DONALD: I just want to get this clear. The history we have is 50 cases of this epidemic. Now, these men were incapacitated for altogether three months, gentlemen. A fourth of a year. Those men represent easily, in an economic way, wages of about \$1,000 a year. They represent in loss at least a quarter, \$250 at least, in wages lost. That, I think, would be the minimum. Fifty times 250 would represent the monetary value of their services lost to the community. Now, in addition to that, was the care of these individuals by the physicians and by the nurses and by the attendants. What did that mean? It meant that we couldn't afford to care for our sewage, but we could afford to pass it down to our neighbors along the river and let them drink our sewage. In other words, "Am I my brother's keeper?" Now, this beautiful city of Detroit answers, "No, we are not." Let Wyandotte, let Thornton look out for themselves. In other words, let the neighbor be damned. We dump our sewage into the river. Our neighbors drink our sewage with the tremendous economic loss which we have just heard.

That is the point that appeals to me always. It is not at all unanalogous to the condition of we physicians who exercise our best efforts in saving an occasional life and then we exploit the manufacture of a high explosive to kill thousands. And the futility of it all to me is particularly interesting and particularly fascinating from a psychological standpoint.

So far as this paper of Dr. Hackett is concerned, I think he has brought up several exceedingly valuable points. In the first place, the question of blood counts. I didn't catch the time it was recorded. What day did you get the blood count? What day of the disease?

DR. HACKETT: Ordinarily, that would be about the second or third day of the disease. The first week, anyway.

DR. DONALD: Of course, you can get a count earlier than that.

If the figures Dr. Hackett has given us are correct, that is exceedingly valuable, showing no high leucocyte count during the early days of the disease, as suggesting points before we can get a Widal. No blood cultures made, were there?

DR. HACKETT: There were some, but they were not very satisfactory. We did not get uniformity of results.

DR. DONALD: It might be valuable to test that out with some of our further epidemics. While we feel that is a thing of the past, it is not a thing of the past and we will undoubtedly have more of it.

Now, there is one thing that attracted my attention, and that was his method of treatment. I can recall how the bran treatment was taught to us as a *sine qua non* in treating typhoid fever. You notice the elimination of the bran treatment. I have not seen it at all lately. I have not found it necessary to use in the vast majority of my cases, but where the temperature has been very high or a very profound toxemia, it seems to have been a valuable method of treatment. It is dirty and cumbersome. In the house, it is almost impossible to achieve. We can, as Dr. Hackett did in his cases, secure almost as quickly and as good results by the wet pack and sponging and various methods of hydro-therapy.

I notice he spoke of colon lavage, in washing out the bowel, and also as a hydro therapeutic measure in reducing temperature and reducing toxemia, which, to my mind, is an exceedingly valuable method.

Years ago I instituted a series of experiments in the use of vaccines as a cure for typhoid. Our figures were very disconcerting. We did not get anything like the results that the doctor was able to get. Of course, his vaccine treatment was earlier in the disease. All of them, at least one injection before they came to the hospital. They either had the injection just before they came down with the disease or immediately after. Whereas, they came to us late in the disease and the result was practically nil. That, I think, is an exceedingly important point and a point that should be remembered and emphasized, so that if one is going to use the toxines, he should use them early. It should be considered a routine method of treatment where a case of typhoid lies in the house, that all other members of the household should receive vaccination just as in cases of smallpox, when one case is in the house, vaccinate all members, and with diphtheria in the household, to all other members is applied the antitoxin.

I don't know of anything that has appealed to my attention any more strongly during the world war. I don't know of anything that has appealed to it more strongly in a medical way than the exceedingly brilliant results from the use of typhoid vaccine as a prophylactic among our boys and all the boys who had it used upon them in the great war. I feel that typhoid vaccination should be recommended to all. I gave it to my boy and I feel that all young adolescents should have it thrust upon them just as we urged upon them the smallpox vaccination.

The high caloric feeding of Dr. Hackett likewise appealed to me. Some of us old fellows remember our method of handling our cases with a few pints of milk for diet. Economically, it is an exceedingly easy method of treating our cases. Hygienically and dietetically, I don't see any advantage. It is liquid outside of the body—what could be more pernicious in a way—I do feel that milk should be used with the utmost discretion and with a full realization of the one fact I mentioned, that the liquid is a solid the moment it enters the stomach, because curdling takes place immediately and it has to be broken up immediately by the inefficient body juices.

Milk is an economic ideal food, easily obtained, so comparatively pure, but digested in these cases only with the aid of emulsions, such as a little gruel or broth or cereal or with lime water or with the addition of some water. The use of buttermilk, or various malted milk preparations are exceedingly valuable. Let a man drink one pint of milk, letting him have it for both food and drink, is to my mind unscientific in the treatment of typhoid fever. One pint of milk plus a pint of eggnog, plus some of the rich cereal soups, plus the fruit juices for the stimulating action on the secretions, plus possibly some of the other drier foods, such as bread or toast—then we have a diet exceedingly high in caloric value. We have a diet which will bring our patient up in a few weeks after he leaves the bed and will bring the patient out so that he can return to the ranks of labor a few weeks after leaving the hospital.

I would commend his method of treating the early cases, only it seems to me that would be just about ideal for the first eight or ten days. When the danger of toxemia is practically removed, then cautiously, exceedingly cautiously, adding to the diet as we found it necessary, found it indicated, adding day by day a little change in the diet. I believe we can bring out our patient into labor life much more rapidly and more efficiently than otherwise.

DR. E. W. HAASS, Detroit: There are some unusual features that are quite different from what we see in the ordinary

run of typhoid fever. The association of diarrhea, gastrointestinal disturbances, with the typhoid. It is not unusual, when you have a sporadic case of diarrhea, that five or six other members of the family had diarrhea before. You find in such epidemic cases, these epidemics were solely the result of accident, contamination due to water supply. Flushing out toilets, etc., some careless individual, allowing the water to escape into the water supply, which accounted for the epidemic Dr. Hackett had to deal with. We had a similar epidemic along the river in one of our big rubber factories, due entirely to the same cause. Outside of that, there is very little typhoid fever we have to contend with in Detroit at the present time.

The interesting things here are the association of the various infective agents with this typhoid and with these diarrheas. In a group of 26 patients, you will have 100 per cent. of diarrhea; whereas, in just as many cases of sporadic typhoid in Harper Hospital, over several years, we haven't had a single case of diarrhea. We know that there is an association of various infective agents, such as colon bacillus infection, the dysentery group, and para-typhoid and typhoid. One seems to prepare the way for the other for infection.

Dr. Hackett's blood counts were very illuminating and coincided with the statistics I gave the Michigan State Medical Society about an equal number of cases of sporadic typhoid we had in Harper Hospital. Of course, the most valuable diagnostic agent is the blood culture. It requires facilities every individual has not got. For that reason, I have laid so much stress upon the absolute relative white count. Our figures conclusively show what Dr. Hackett has shown again. If the blood count is high, it is simply because there is some complication we must discover.

The blood count low in other conditions, in influenza, our first blood counts made us think we were dealing with typhoid fever. Our blood counts were as low as 1500 and 1200 in the late epidemic.

WHEN SHOULD THE GALL BLADDER BE REMOVED?

WM. J. GILLETTE, M.D.

TOLEDO, OHIO.

Modern operations by the abdominal surgeon upon the gall bladder and its ducts are now comparatively safe, so far as life is concerned, and in most instances most satisfactory, but unfortunately a small percentage of cases are followed by so much pain and discomfort with other serious symptoms that the patient is uncomfortable in the highest degree and sometimes invalided. The causes for and the best means to overcome such after results, reducing them yet further in number, constitutes the most important question in gall bladder surgery today. In looking over the literature of the subject which, by the way, is enormous, we find a variety of answers to it. In the opinion of most surgeons the causes for bad after results may be summarized principally as overlooked stones, failure to deal properly with adhesions, persistent infection, and malignancy. W. J. Mayo lays especial stress on the form of infection known as the "strawberry bladder" described by MacCarty.

The answer to the question how overcome best, in the most efficient manner, serious after results of gall bladder surgery observed, lies,

in the opinion of most surgeons, in either long continued drainage of the gall bladder, or cholecystectomy, or cholecystectomy with drainage of the ducts.

The idea seems to be gaining ground judging from the literature and discussions in medical societies that cholecystectomy should be performed more frequently than in the past, and John Deaver goes so far as to say it should be performed in practically all cases. (1) In addition, he advises the drainage of the ducts with a T drain.

W. J. Mayo thinks cholecystectomy should be done in 80 per cent. of cases. C. H. Mayo in a study of 242 cases of cholecystotomy in which but 53 per cent. were cured, 38 per cent. improved and 9 per cent. not improved, places against this showing a study by him of 219 cases of cholecystectomy in which the cures were given as 71 per cent. with 22 per cent. improved and 7 not improved. Graff and Weinert traced (2) 130 cholecystectomy cases and found 73.4 permanently cured. While Schulz was able to trace 145 out of 510 cases with 100 per cent. of cures. (3).

It would seem from these reports that cholecystectomy should be the operation of choice to obtain better after results. Between the 53 per cent. cured by cholecystotomy observed by C. H. Mayo and the 73.4 per cent. cured by Graff and Weinert by cholecystectomy there lies a difference of 20.4 per cent. to the credit of ectomy, and in estimating the difference in his own work between these operations, between the 53 per cent. of "otomies" and 71 per cent. of "ectomies" there lies 18 per cent. more cures to the credit of ectomy. While these results and the opinions of men of wide experience would indicate ectomy to be an operation of superior value, yet I question whether we should close the subject here and accept ectomy as practically a universal operation without a consideration of the function of the gall bladder, and whether the patient is as well off without it as with it.

The ancient sentiment, "I had rather be wrong with Galen than right with any other man," does not contain the true scientific spirit, and we should only accept teachings from others when they accord with our own daily experiences. Statistics are acknowledged as misleading and should not be accepted from any source as containing the entire truth of the matter. I am sure there are many surgeons within reach of my voice who can show hundreds of otomies

done with complete success, their patients never after experiencing either pain or discomfort from their operated gall bladders.

If, of course, it can be shown that the gall bladder has no function of consequence, then its removal when at all diseased should be a matter of course, as with the appendix. While its function at the present time "has not been definitely established," yet it most certainly does have function and possibly of more importance than is generally recognized. And I quite agree with W. H. Magie (3) when he says:

"Recognizing the fact that the gall bladder is not a vital organ and that man seems to get along well without it, it still may be true that our patient does not get along so well without it as if he had it still functioning." "The facts are that we have no means of knowing how much better off a patient might have been if the gall bladder had not been removed."

While the function of the gall bladder has not been to date entirely established, we do know something of it. That it is solely a reservoir for bile can no longer be maintained. C. H. Mayo and John Deaver think it is a tension bulb to relieve the liver from undue back pressure. The elasticity of its walls permitting this, and its contractions which occur 8 or 10 times (7) a minute constituting an important factor in regulating the flow of bile into the duodenum. According to Werelius (6) respiration assists greatly in this action. The function of the gall bladder must be one of importance or nature would not so generously provide for its absence, in the dilated ducts that so promptly appear. The hepatic and common ducts are muscle covered tubes capable of distention, and have contractile power sufficient to overcome the sphincter of Oddi, in the absence of the gall bladder, and they fortunately take on its function. In fact, some of the lower animals, as the horse, have no gall bladder and its work is carried on normally by the ducts, a fact which may argue against our belief that it is best conserved in man. I take it the regulation of the flow of bile into the duodenum will eventually be recognized as the chief function of the gall bladder, but it, no doubt, has others of value as the secretion of mucus for the protection of the pancreas and duodenum, also according to Whol (8) the mucus mixed with bile gives it valuable physiological properties.

That the gall bladder has something to do with altered stomach secretion is asserted by Ohly and other observers, who found that after its loss 70 to 80 per cent. of cases had disturbed secretion of H. C. L., and I am sure this obser-

vation of Ohly accords with my own. If now these facts are sufficient to show that the gall bladder has function of importance, then it must be conceded it should be conserved when possible, and removed only when its function is destroyed or in all probability cannot be restored. This proposition granted, it follows there must continue to be a field for cholecystotomy as well as cholecystectomy.

I think surgeons will agree that cholecystectomy should be done when there are adhesions about the gall bladder and infection is likely to persist in Luschkas' crypts, indicated by enlargement of the Lymph glands along the ducts.

In malignancy, gangrene, obstruction of cystic duct by stone or otherwise producing a cystic gall bladder. There seems to be a doubt, however, in the minds of some surgeons regarding the strawberry gall bladder and the advisability of its universal removal. Dr. Bevan says "for him it does not exist." All these conditions may be summarized by the statement that the gall bladder should be removed when the elasticity of its walls is impaired or likely to become so beyond restoration by inflammation or otherwise, and its power to regulate the flow of bile into the duodenum completely destroyed or greatly impaired, and with this impairment the destruction of its glandular secreting apparatus. It has not seemed to me that its content of black or viscid bile constitutes a sufficient cause for its removal.

That the gall bladder should be retained when possible by reason of the greater danger of ectomy rather than otomy is not with me a valid argument. That cholecystectomy carries with it a higher death rate than "otomy," I think is the general impression among surgeons, but the experience of the writer based on 211 operations of the gall bladder does not bear it out. Of the 211 cases operated there were 44 ectomies with 3 deaths and 167 otomies with 13 deaths, or a death rate for ectomies of 6 per cent. + and for otomies of 7 per cent. +. Now when it is taken into consideration that ectomy was done in the gangrenous, the perforated and many of the suppurating gall bladders, in fact, my worst cases are included in the 44, I think I am warranted in the opinion that otomy carries with it a slightly higher death rate than ectomy.

That continued drainage of, at least, 14 days, and the careful removal of all stone in the bladder and ducts are the most important factors for cure I am convinced, for of the 167

otomies there have been so far as I know but 6 reoperations, 2 for overlooked stone, one of these in the ampula of Vater, one for a gangrenous gall bladder that presented some features of interest. In this case, a year after an otomy had been performed upon a woman with an enormously pendulous abdomen with extreme ptosis of stomach and intestines. She had following an attack of influenza the severe pain of gangrene, and I reopened her abdomen, where I found the gall bladder adherent to the surrounding viscera, the liver remaining in its normal position. The abdominal ptosis had so made traction on the bladder that its blood supply had been cut off, with gangrene.

A fourth case was reoperated for cancer and the other two for persistent infection with pain. While I have found it difficult to compare with certainty the difference in the after results of my ectomies and otomies, I am quite of the opinion stomach disturbances are more frequently observed following "ectomies" than "otomies," and this paper is written and presented in a belief that the absence of function of the gall bladder has something to do with such disturbances, and should be conserved when possible, I am sure this may be done in a much larger proportion of cases than is now often recommended, if we employ better drainage and careful and complete removal of stone from both bladder and ducts. In fact sufficient reasons for its nearly universal removal are not entirely apparent. The slightly higher death rate of otomy, if it exists, I am sure, is counter balanced by the benefits of continued gall bladder function and the possibility of its subsequent employment for drainage of the pancreas, liver and ducts, and further, if after an otomy the gall bladder should not be restored to health it can easily be removed.

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DISCUSSION.

DR. A. D. McALPINE, Detroit: In my experience the majority of cases are "otomies." There is no doubt in my opinion that a cholecystectomy in the hands of the average surgeon carries with it added risk by trauma and the mortality is bound to be large. In the hands of the expert the mortality is about the same as with cholecystotomy. In the essayist's analysis of the cases of "otomy," I cannot understand how the mortality is higher. If you take the pathology of the gall-bladder into consideration, whether with a known infection or a supposed infection, all gall-bladders ought to be removed,

because we know so much about focal infection that we want to get rid of that focus of infection, but I think we fail to realize that the gall-bladder is a focus of infection. In cases of gangrene of the gall-bladder, unquestionably the gall-bladder should be removed. I have had cases with duct packed with stones, a stricture of the cystic duct and a carcinoma, where we had to do cholecystotomy. We have to take into consideration the condition of the patient in an acute infection of the gall-bladder. In the event of an acute infection, I think they should all be removed.

DR. E. S. JUDD, Rochester, Minn.: I have heard this question discussed from many angles. Some years ago I heard a paper at the Wayne County meeting—I think by Dr. Carstens—in which he said we were carrying it too far. I think that is true. I do not believe every gall-bladder should be removed. It is not our experience that every gall-bladder that is operated on should be removed in order to cure the patient. I think the difficulty is that we do not study our cases. Deaver has shown that 54 per cent. of his cases with stones had sterile bile. As Dr. Gillette says, at the time of drainage if we do not remove the gall-bladder, we can always do it later. I think Dr. McAlpine brought out a good point about the technic. The question is whether we are more apt to get in trouble doing "ectomy" than "otomy." I think, as Dr. Gillette said, that the mortality is higher in cholecystectomy than in cholecystotomy. That is true with us. There is naturally more infection.

I made quite a study of the function of gall-bladder at one time in my experimental work on dogs and we showed, as I have said before, a dilatation taking place in the duct after the gall-bladder was removed. These changes undoubtedly show that the gall-bladder had a definite function and this probably is just about as Dr. Deaver and Dr. "Charlie" have said before, that the principal function of the gall-bladder is the drainage of the liver. There is one other thing, however, regarding what happens after the gall-bladder is removed. I found in a case that over fifteen years before had had the gall-bladder taken out, practically no trouble at all. The patient was practically well, so I think a person can get along perfectly all right without a gall-bladder. I think there is a place for cholecystectomy, especially in cases where the gall-bladder is packed with stones. There is another class of cases in which this is the operation of choice, namely, in cases where the infection is very great. Cholecystotomy is a simple procedure and should be done if possible; then if necessary a cholecystectomy can be done as a secondary operation.

DR. C. D. BROOKS, Detroit: I have always occupied rather the middle ground and I am glad the paper this afternoon simply suggests a question and that there is on final dogma given as to whether a gall-bladder should or should not be removed; that the Doctor has simply stated his experiences—that some cases should be removed and others should not. I was glad to hear that cholecystectomy should only be done in selected cases, but with the experience I have had I feel that cholecystectomy should be performed more often. Of the cases I have had 80 per cent. where it was done to only 20 per cent. where it was not. I have come to that conclusion not by going to clinics, but from my own experience in cases I have operated and which have returned for re-operation to me—probably some of them have gone elsewhere—that cholecystectomy should be done. I have had a number of cases, at least twenty, during the last year and a half on which I did a secondary operation; whereas now I do an "ectomy" first and they are cured, instead of doing an "otomy," and having the patient an invalid for six months.

As to the "strawberry" gall-bladder, we have to open the gall-bladder and ascertain the condition before deciding what to do. Now instead of sending these patients to my medical friends for a while and have them send the cases back to me, I do an "ectomy" and they get well—these same "strawberry" gall-bladders. If there is any gall-bladder that should come out in my opinion it is this "strawberry" gall-bladder, where you cannot make the diagnosis before you open the gall-bladder.

Some of the reasons why cholecystectomies are harder than cholecystotomies are because the surgeons do not get a proper exposure. I think an "ectomy" is easier than "otomy."

I think, with Deaver and Mayo, that in an infected gall-bladder associated with cystic duct stones it is wise to drain the cystic duct. I would not do an "ectomy" without drainage. I would not try to do an "ectomy" with cystic duct stones without drainage. In those cases in which we cannot do a cholecystectomy because of the patient's condition, we simply open the gall-bladder and put in a tube and we get much better results. I also believe that in those cases with

high temperature we should not wait too long before doing an "ectomy." I think it is wise to do as we do in goiter surgery when we ligate the poles and do an excision in thirty days, two weeks or three months. I think it is not wise in these patients with gall-bladders to wait too long before doing the secondary operation. We will get a much easier operation. Then the patient will get well and stay well instead of going on for a year or more and then having the cholecystectomy done. Technically, a secondary operation on the gall-bladder is not an easy one. It is easier to do an "ectomy" in the first place if an "ectomy" is indicated.

DIAGNOSIS OF DUODENAL ULCER.

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The anemnesis is the most important factor in the diagnosis of duodenal ulcer. Moynihan claims, that it is not necessary to examine the patient for duodenal ulcer, as the history alone is sufficient to make a diagnosis: The physical examination gives no evidence upon which the diagnosis can be based, it is practically nil. However, Moynihan's contention, must be taken figuratively, as he, no doubt, only wishes to emphasize the absolute necessity of a careful history by this drastic statement. A physical examination should be made in every case, as a means of detecting complications.

The symptomatology, as gained from the history of patients afflicted with duodenal ulcer, is very characteristic. Nevertheless, it must be correctly interpreted, and if all other complications are not carefully taken into consideration, a mal-diagnosis will be the result. The most prominent symptom is pain, burning in character, which does not bring on discomfort until 2 to 4 hours after the ingestion of food. It is localized in the epigastrium and can be relieved by pressure in this region. An increase in pain comes on when the patient is hungry (hunger-pain) and a diminution of pain is experienced when food is taken. The hunger pain comes on in periodical attacks; this symptom alone is not sufficient to make a diagnosis. The patient suffers with pain for a length of time and then a period of freedom from pain occurs, having no relation to medication. After stomach lavage the pain usually becomes worse. It disappears upon going to bed (prone position) and upon dieting; but these two latter facts are suggestive of ulcer of the stomach, as well as of the duodenum. The so-called "season pain" is characteristic of duodenal ulcer, and spring and fall exacerbations are distinctly accentuated, which may probably be the result of infections that

*Chairman's Address, Surgical Section, Michigan State Medical Society, May, 1919.

take place in spring and fall. The nocturnal pain, which occurs at about 2:00 a. m., is an important part of the history. Pain awakens the patient at this hour and is quieted by taking food; for this reason these patients often put some food at their bedside upon retiring. The attacks of pain are frequently the consequence of colds, wet feet, hasty eating, excitement, over-exertion, and come on particularly during the cold season.

Pain in the epigastrium is usually more indicative of gastric ulcer; in duodenal ulcer it is usually more to the right. This is not constant, however.

The typical symptoms of duodenal ulcer are preceded by signs of distress and bloating, which usually appear about 2 hours after eating, accompanied with pyrosis. The accumulation of gas, which is associated with constipation frequently can be relieved by catharsis and enemata.

Gas and belching are common to all abdominal diseases associated with hyperacidity; such as, gastric or duodenal ulcer, biliary tract infections, adhesions, gastroparesis or appendicitis.

It induces the patient to believe there is gas in the stomach; the sensation is caused by irritation of excessive acid. He makes endeavors to belch and finally swallows enough air to belch some.

Fluoroscopic examination with barium and buttermilk shows only a small bubble in the fundus of the stomach. (Magenblase).

Nausea and vomiting, especially the vomiting of blood, are a very rare occurrence. Over-exertion may bring on hemorrhage with collapse of the patient and without causing any pain. Palpitation of the heart may occur through the loss of blood. The passing of blood will give the stool the characteristic black color.

Vomiting does not occur in the ulcer of the duodenum, unless there are complications.

Regurgitation is indicative of ulcer of the stomach.

A periduodenitis, an attempt at perforation, an inflammation of the peritoneum, or an infected gall-bladder are usually responsible for regurgitation, nausea, or vomiting.

Vomiting of food contents alone is usually found in gastric ulcer or where gastric ulcer is a complicating factor.

Vomiting of bile may usually be attributed to disease of the biliary tract or some inflammation of the peritoneum.

It has been observed that patients with duodenal ulcer will have a chill lasting from 10 to

20 minutes with a rise of temperature, which may come on at uniform intervals and may last an indefinite time. This incidence may be misleading and result in confounding the ulcer with tuberculosis of the bowel. Different causes for chills have been suggested; principally, the extension of the infection through the common duct, which could take place without causing jaundice. Another cause may be the infection through the lymphatics from the duodenum to the transverse fissure of the liver, into which the lymphatics pass. In this way infection of the blood stream may cause chills. An infection extending into the transverse fissure of the liver may then present a radiation of the pain toward the thorax, shoulder blade or neck, similar to the radiation of pain in cholecystitis.

Infection of the common duct and the gall bladder are frequent in duodenal ulcer. After the infection subsides a periduodenitis or a pericholecystitis may remain with no history of gall bladder disease. In periduodenitis and pericholecystitis tenderness is not as marked as in gall bladder disease, but they usually leave adhesions.

It may be well to call attention to the differentiation of tenderness and pain in duodenal ulcer, as well as peptic ulcer and cholecystitis. As long as the inflammation is confined to the mucosa and muscularis, there is no tenderness. The pain is colicky and wave-like in character, relieved by pressure and brought on by muscular contraction through an irritation of the sympathetic nerve. Whenever the inflammation attacks the serosa, causing a circumscribed peritonitis, tenderness is elicited, rendering palpation and pressure painful.

According to Moynihan the objective symptoms may be wanting and still the diagnosis can be made with certainty from the anamnesis.

In several cases we found the symptoms so typical, that the diagnosis for duodenal ulcer was evident, and still a negative finding at the time of operation had to be recorded; and in one instance a duodenal ulcer was found, where there were no indicative symptoms. It must be admitted that two cases operated upon, where no ulcer of the duodenum was found, did not have all the characteristic symptoms as defined by Moynihan; the pain 2-4 hours eating was present, but the chronicity, the attacks of pain at night and the periodical return of pain was wanting.

Much stress has been laid upon the rigidity of the right rectus muscle to the right from its

median line, which in our experience is very indefinite. Palpation is also of less importance and value for the diagnosis.

The percussion of the region of the stomach with short, sharp taps of the hammer, as described by Mendel, was sensitive only when there is an ulcer of the stomach or duodenum; in other diseases this mode of percussion does not cause pain.

In differentiating doubtful diseases of the stomach the X-ray is by far the most reliable aid at our disposal. Bier considers it of the greatest value in cases of hour-glass stomach and cancer of the stomach, especially, when there is a beginning stenosis of the pylorus; but in cases of duodenal ulcer the X-ray does not offer the same advantage for diagnosis. Many shadows in the X-ray plate have been designated and found to be duodenal ulcer; nevertheless, it has not yet been shown that they are really characteristic for this disease. In the opinion of Barclay an ulcer of the duodenum excites more frequent and stronger peristalsis of the stomach with a correspondingly more frequent opening of the pylorus and a consequent quicker propulsion of the stomach contents into the bowel. The tonus of the stomach is mostly increased.

Kreuzfuchs claims, that the emptying of the stomach is only increased during the first period after taking a meal. This increased and more frequent peristalsis of the stomach is a constant finding in duodenal ulcer, but loses its importance as a characteristic symptom, because it is also found in achylia, icterus catenhalis, pancreatic tumors, etc.

The bismuth spot remaining in the duodenum is a true sign of ulcer according to Moynihan and Barclay, when it can be demonstrated after the stomach contents have been discharged and that it is located in the most proximal part of the duodenum. The sacculation of the scar of the ulcer is claimed to be the cause of the bismuth shadow. In one of our cases this bismuth shadow was clearly shown in the X-ray picture, but upon opening the abdomen no ulcer of the duodenum could be demonstrated.

Theoretically it seems probable that the duodenal ulcer, having formed a scar stenosis, should be demonstrated by the X-ray as a consequent dilatation of the stomach or of the bulbous duodeni; but, as is generally admitted, even in a deep seated and small lumen stenosis, there frequently is no dilatation of the duodenum present. Bier, who takes issue with Moynihan, relative to making a diagnosis from the

anamnesis, advises the most careful study of stenosis in the X-ray picture, as they are very deceiving.

Aside from the history, blood in the vomitus and stool and occult blood is a most important diagnostic sign. Occult blood in the stool together with Moynihan's anemnesis, makes the diagnosis positive. In doubtful cases repeated and careful examinations for occult blood should be made, with the exclusion of blood from food and bleeding from mechanical irritation of other parts.

Most surgeons agree that the chemical analysis of the stomach secretions is of little diagnostic value.

Several errors in the differential diagnosis between ulcer of the stomach and duodenal ulcer had to be recorded, because we accepted the history as sufficient and the differentiation simple. The anamnesis alone may be easily misleading. The indication for operation in most cases is of greater importance than the differential diagnosis, and consequently, if a mistake is made in locating the ulcer in the organs, the same can be rectified at the time of the operation without any detriment to the patient. The operation is indicated in either case.

The differentiation between cholelithiasis and ulcer of the duodenum may at times be difficult, but a carefully taken history will clear up the doubt. Care must be taken that a possible gall-stone shadow in the X-ray picture is not mistaken for a bismuth spot on the ulcer.

Constipation is usually found associated with gastric and duodenal ulcer. In infections of the biliary tract and gall-stones there is usually no constipation.

Infections of the biliary tract are a center for the distribution of infection; such patients usually give a history to that effect. Ulcer of the duodenum and stomach are the end results of infection and the patient gives no history of infection. Ulcer of the stomach and duodenum is therefore not accompanied by headache, rise of temperature, infections of the joints, coated tongue, or any signs of sepsis, unless complications have occurred.

Icterus being absent may be differential. Many diseases of the biliary tract do not entail icterus, but its absence together with the other symptoms may be an aid in diagnosis.

Loss of weight in gastric and duodenal ulcer is due to starvation, either voluntary or forced, or by lack of assimilation.

In disease of the biliary tract it is usually due to infection.

Duodenal ulcer symptoms are "clearcut."

Pain to the right of epigastrium.

Pain comes on one or two hours after meals and is relieved by taking food.

Gastric ulcer developing when a duodenal ulcer is present disguises the symptoms of duodenal ulcer.

Pain comes on immediately after eating and merges with the pain of duodenal ulcer that comes on one or two hours later. Prolonged pain may therefore be suggestive of the presence of duodenal and gastric ulcer at the same time. Vomiting or regurgitation may then disguise the duodenal ulcer. Constipation is prominent in both diseases.

Relief upon taking food in duodenal ulcer does not take place, if a gastric ulcer is present. The symptomatology of gastric ulcer covers the symptomatology of duodenal ulcer.

If a clear history of duodenal ulcer is given, that later gives place to symptoms of gastric ulcer, a diagnosis of both conditions can be made.

But if a gastric ulcer develops first and is followed by duodenal ulcer it is impossible to make a double diagnosis. The only possibility of discovering the presence of a duodenal ulcer would be an examination of the duodenal cap by X-ray.

The presence of a gastric and a duodenal ulcer in the same patient is common.

The differentiation between appendicitis and duodenal ulcer does not present any special difficulties.

A gastro-enterostomy should not be performed, when there is no ulcer of the duodenum.

Stretching the duodenum gives an anemic white spot near the pylorus, as described by the Mayos, which must not be confounded with ulcer. In doubtful cases an incision transversely into the bowel or stomach may be warranted and an exploration made from the inside with the finger, if necessary inspected with the eye.

The author has come to the conclusion, that the diagnosis of duodenal ulcer sometimes presents many difficulties, and that a diagnostic fallacy may easily be the outcome, if all the aids of diagnosis are not employed to reinforce the diagnostic structure. Acute appendicitis usually is not a diagnostic enigma. Nevertheless, this very simplicity has often been the scapegoat of error, because it gives the surgeon an unwarranted sense of positive assurance. Com-

plications are liable to arise in any disease; but, complicity and simplicity are not synonymous. On the surface all may seem serene and simple; where the eye and hand do not penetrate, conditions may be very complex. A rapid conclusion, based solely upon the history of the patient may easily cause the chagrined surgeon to blush with diagnostic embarrassment. The diagnosis of duodenal ulcer requires time and study.

WHEN IS STERILIZATION OF WOMEN JUSTIFIABLE?

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It has long been an accepted rule of obstetrics that pregnancy may not be interrupted except on the ground that such interruption be necessary to save or prolong the life of the mother or to preserve the life of the fetus. Another rule is that pregnancy shall not be interrupted on the judgment of one physician alone, but, except where circumstances render this impossible, only after deliberate consultation with one or more physicians of recognized standing. Moreover, from the physician's standpoint there is no debatable time during pregnancy when these rules do not apply. Scientifically and practically the rights of the fetus are the same from the moment of conception to the hour when natural labor begins. A physician has no more right to empty the uterus after the skipping of one menstrual period than he has to interrupt pregnancy at a later date, the only difference being that his opinion as to when pregnancy shall be interrupted in the event of the mother's life being endangered may be influenced by the effect of such interruption upon the chances of the fetus for extrauterine existence. For instance, in a case of a woman with cardiac decompensation with small chances of the pregnancy continuing up to the point when the child would be viable, it would obviously be the part of wisdom immediately to empty the uterus in the interests of the mother whose life is endangered. On the other hand, if in a case of marked cardiac decompensation pregnancy has advanced to the sixth month, the physician naturally in the interests of the fetus soon to reach the age of viability will not be in favor of the immediate interruption of pregnancy if the mother's chances are not markedly diminished by such delay.

I trust I may be pardoned for setting forth these rather trite and generally accepted obstetric rules of procedure, but it seemed a necessary preliminary to the consideration of the question of the sterilization of women. Although there exists quite a literature on artificial sterilization, it must be acknowledged that the profession is not nearly as conversant with the rules governing this procedure as is the case with the artificial interruption of pregnancy. This is explainable on the ground that the interruption of pregnancy being a safer procedure has been performed since the beginning of obstetrics while artificial sterilization has only been safe and practicable since the advent of antiseptic and aseptic surgery.

Only those having to do with large public and private clinics have any realization of the number of women which for one reason or the other has been rendered incapable of reproduction. Much of this work has been performed for disease and is justifiable in that it restores the woman to health. It must be confessed, however, that in many cases the woman was sterilized through inexcusable errors of diagnosis and upon insufficient pathological grounds. It is not the purpose of this paper to deal with the class of cases where sterilization resulted from the removal of the diseased female organs of generation but to confine it to the indications for the artificial sterilization of women, either with or without a coincident operation, when the purpose of the procedure is to prevent future conception.

It will be at once apparent why the question of interruption of pregnancy is exceedingly valuable to a consideration of the indications for the artificial sterilization of women, for both have grounds in common although they differ in other respects. Stated generally, bearing in mind the interests of the State, fetal life should not be destroyed or conception prevented except on the ground that the mother's life be endangered by the continuance of the pregnancy or by the advent of future conception. In other words, the same rules ought to govern both procedures with this difference; in pregnancy at all stages there is another life to be considered, such life to be sacrificed only to preserve the mother's, while in the other class of cases, sterilization is performed entirely in the interests of the woman, for only a possible future life need be considered.

The physician will be spared much if he agrees to the above statements and acts upon

these rules of procedure. The physician who is not firm in his refusal to interrupt pregnancy except to save or prolong the life of the mother, if he is even willing to discuss the justifiability of interruption in a given case on other grounds, is in a very disagreeable position to say the least. So many apparently good social and economic reasons why particular pregnancies should be ended can be advanced that the minute he makes this debatable ground, his troubles begin. In artificial sterilization this is even more true. The woman dreads to have a child or go through the ordeal of another pregnancy and labor; she has enough children and for social and economic reasons does not desire more; these and many other reasons are advanced and would be given far more frequently than is the case except for one thing. The laity are not as yet so well educated regarding artificial sterilization of women as they are along other physiologic and operative lines. Sterilization of women carries with it in the public mind the loss of the ovaries from which women shrink, since it means diminished or gradual loss of sexual desire. That this is true is demonstrated by the comparatively large number of cases where women refuse certain types of operations necessitating sterilization until they can be assured that their ovaries will not be removed and that tubal sterilization will not interfere with sexual desire or marital relations.

It will be necessary in any consideration of the indications for artificial sterilization to keep in mind two kinds of sterilization, which in lieu of better definitions may be spoken of as, 1. Primary Artificial Sterilization, 2. Incidental Artificial Sterilization.

1. Primary Artificial Sterilization. Under this classification would come all cases where artificial sterilization is the primary end in view, the patient not being pregnant at the time, and the operation performed solely to prevent future conception.

2. Incidental Artificial Sterilization may be defined as sterilization performed during the course of another operation in the belief that the patient's life or well being would be seriously impaired by future pregnancies.

Obviously, if artificial sterilization can only be performed on pathological grounds, for serious organic changes in the maternal organism, or because the past history of the individual has shown that pregnancy will bring about changes which will seriously threaten her life, primary sterilization will not often be performed. The

surgeon will hesitate to advise sterilization in the presence of organic disease which renders any kind of operation hazardous, for he will reason correctly that he is not justified in exposing his patient to certain risks in order to safeguard her against a possible additional danger by which she never will be menaced in case she does not become pregnant. For example, a woman with diabetes of a certain grade can never be subjected to operation without considerable risk. Artificial sterilization of such a woman would be subjecting her to certain risks. If the operation be not performed and pregnancy does occur, the latter can be interrupted with minimum risk to the patient. The same line of reasoning will apply to other organic diseases, the indications for primary sterilization depending upon the extent of the disease and the dangers of the operation in each individual case. However, it may be stated in a general way that this careful weighing of the indications and contraindications for primary sterilization is bound to narrow the field of this operative procedure. If the condition of the woman is such that pregnancy would be a serious additional menace to life, her condition would be such as not to warrant the performance of an operation to prevent something which may never occur.

In the second class of cases, incidental artificial sterilization, the situation is entirely different. Another operation must be performed for the safety or comfort of the patient. The puerperal history of the patient may show that her life would be seriously menaced or made so miserable as to be unendurable by another pregnancy. In such a case, since the additional operative risk of coincident tubal sterilization is practically nil and need not be considered, it is not only justifiable but it is the duty of the physician to consider the advisability of sterilization. For example, a woman with chronic nephritis in the child bearing period who must be operated upon for the removal of a pelvic or abdominal tumor should be sterilized as a part of the operative procedure if pregnancy would seriously jeopardize her life and if without sterilization her puerperal history is such as to warrant the assumption that she will become pregnant.

It is important to study each case carefully in order to decide wisely whether or not to sterilize, and the careful study of the patient's puerperal history is absolutely essential in this connection. While incidental sterilization may

be indicated in a young woman who has had frequent pregnancies during her married life it may perhaps be decided unnecessary in an older woman who has been sterile the entire period of, or a greater part of her married life.

If artificial sterilization can be performed upon pathologic grounds alone, only those cases can be judged suitable for the procedure where the organs or organism of the woman is so impaired as to render future pregnancies extremely dangerous, or parts of the birth canal may be in such condition as to make it necessary to provide against future conception. In any case there should be definite reasons for sterilization which time can not change except to make them more urgent. If this be true, there is no place for temporary artificial sterilization and all operations with this end in view are based upon false premises and need not be considered.

A woman never should be sterilized without the knowledge and approval of the patient herself, that of her husband and the family or another physician. This applies not only to the removal of diseased tubes or ovaries or both but to artificial sterilization as well. It is the custom in the University Clinic for the husband or the woman herself if she be of age, unmarried, widow or divorced to sign a paper before operation authorizing the surgeon to perform such operation as he may deem necessary. It would seem advisable to be even more explicit when artificial sterilization is contemplated, for it is an extremely serious thing to deprive a woman of her capacity for reproduction. That is why, personally, I am not enthusiastic over primary sterilization of the insane, or those who are defective mentally, since they are incapable of giving assent to the operation. I would not refuse to perform incidental artificial sterilization on people of this class when the operation is advised by an alienist of high standing but I certainly would hesitate under the existing laws of the State to perform the primary operation. Most of the sterilization laws passed by many states have been declared unconstitutional, showing that it is a debatable question and that one should not lightly perform such operations upon this class of people.

Conditions where sterilization may be considered:

1. Pulmonary tuberculosis.

Primary sterilization will rarely be indicated in pulmonary tuberculosis. Great advances have been made in the treatment of this form of tuberculosis, so that it would never be justifiable

to sterilize for the incipient or moderately developed case. In advanced cases, primary sterilization will seldom be employed on account of the danger of any operative procedure under these conditions.

Incidental sterilization should be considered where the woman with advanced tuberculosis must have a laparotomy for other imperative conditions. In case the woman has children and desires future sterility on the ground that pregnancy will augment her disease, the operation would be justifiable and therefore indicated.

2. Other forms of tuberculosis.

Each case must be judged on its merits but generally speaking sterilization will rarely be indicated except in tuberculosis of the abdominal and pelvic organs. In tuberculous peritonitis in the female the genital organs are usually primarily or secondarily involved and when affected will be removed.

3. Disease of the kidneys.

Both primary and incidental sterilization may be indicated in chronic disease of the kidneys. Experience has shown that a woman with chronic nephritis should not marry since the patient's condition is bound to be made worse by pregnancy. Not only is this true but the chances of the pregnancy going to term and a healthy child being delivered are greatly reduced by the presence of the disease.

Each case should be carefully studied as to the type of severity of the kidney lesion. If a woman marries against advice she should not be subjected to the dangers of sterilization for fear of pregnancy since this condition may not supervene. If she become pregnant and either aborts spontaneously or the pregnancy is interrupted to save her life, it is well to consider the advisability of primary sterilization and to perform the operation if the kidney lesion so warrants, with the idea that future pregnancy is probable and that in that event her life will be endangered. Moreover, under these conditions her chances of going to term and giving birth to a healthy child are very poor.

Under the heading of disease of the kidneys should be included those numerous cases where the woman has threatened or actual eclampsia with each pregnancy although she is in quite normal condition with no or very slight urinary findings when not pregnant. In my experience such women have had scarlet fever or some other contagious or infectious disease when young which has left its mark on the kidneys, the lesions being increased to the danger point

by the advent of pregnancy. This class of cases is very well illustrated by the following:

Case I. No. 1516, age 40, married, American, housewife. Had scarlet fever at age of ten. Nephritic symptoms developed at age of 30. Has two living children, 13 and 10 years old. Miscarried during second pregnancy at second month due to typhoid fever. Had eclampsia with third pregnancy at eighth month, in convulsions for several hours, child removed manually and saved. About a year later aborted at fourth month on account of nephritis. Three years later a vaginal Cesarean section was performed for nephritic condition at the seventh month and child died. Had influenza and active nephritis in October, 1918, and has had a great deal of headache and backache since.

Pelvic examination showed an enlarged, retroflexed uterus, a badly lacerated cervix and a second degree tear of the perineum. The urine was quite normal showing neither albumen nor casts.

The patient was operated upon January 11, 1919, the series of operation consisting of dilatation and curettage, bilateral trachelorrhaphy, perineorrhaphy and shortening of the round ligaments. In addition the patient was sterilized by removal of wedge shaped pieces from each uterine cornua and burying the distal ends of the tubes between layers of the broad ligaments. Convalescence was normal.

4. Diseases of the heart.

My own experience has shown that women with organic lesions of the heart where the compensation is even fairly good do remarkably well during pregnancy. Where compensation has about reached its limit or where there is persistent decompensation with its attendant symptoms, edema, ascites and congestion in various parts of the body, due to a dilated and overloaded right sided heart, and experience has shown that the woman will probably become pregnant if not rendered sterile, primary artificial tubal sterilization is indicated.

Incidental sterilization in this class of cases should not be performed upon insufficient grounds but only after careful study of the patient's past history in reference to pregnancies and labors and after careful estimation of the present and future severity of the heart lesion.

The following is illustrative:

Case II. No. 1614, age 19. First para. Has severe mitral and aortic lesions with a greatly hypertrophied heart which is on the border line of decompensation. Her condition was such that it was thought inadvisable for her to undergo the strain of labor in a first pregnancy, although as far as could be judged the pelvic measurements were normal. Abdominal Cesarean section was performed August 28 1917 and a healthy female child weighing six and one-half pounds delivered. It was deemed advisable to sterilize the patient at the time of the operation which was done by

cornual resection. Mother and child made good recoveries.

5. Mental diseases.

Primary sterilization for these conditions has already been considered and the conclusion arrived at is that the operation cannot be often performed on account of the uncertainty of existing laws. This is not absolute and under certain conditions I would not refuse to do primary sterilization, but I would want to be certain that the facts in the case warranted the operation beyond any shadow of a doubt. My reasons for this hesitancy are based upon the changing opinions of the alienists themselves regarding the prognosis of many of the mental diseases. The worse or hopeless cases are carefully guarded in places where pregnancy is not apt to occur. Recovery may take place in the other class of cases and the surgeon confronted under these circumstances by a woman justly indignant at being deprived of the possibilities of becoming a mother, absolutely without her consent.

I would look upon the question a little differently in mentally deranged women who had to be operated upon for some other condition, although even here the surgeon must be doubly careful since he is dealing with a patient whose competency to consent to the operation may always be questioned.

Some of the patients have been subjected to incidental sterilization in the clinic but only upon the advice of alienists and those most concerned with the patient. The following is an illustrative case:

Case III, No. 10,120, age 34, married, two children 5 and 1 year old. Has suffered from a mild form of manic depressive insanity since birth of last child. Family surroundings very bad. On February 15, 1919, the uterus was dilated and curetted and an extensive colporrhaphy for rectocele performed. The abdomen was then opened and a diseased appendix removed which was followed by a shortening of the round ligaments for marked retrodisplacement. Cornual resection of the tubes was performed upon the advice of Dr. Barrett who had given a careful consideration to all aspects of the case. Patient made an uninterrupted convalescence and has improved greatly mentally and physically.

6. Pelvic contraction.

At the present time an otherwise healthy woman with obvious pelvic contraction has no right to demand primary sterilization to prevent pregnancy, if she has never borne a child. Presumably she knew her condition and assumed the risks when she married. Furthermore, the risks of elective Cesarean section at term are not

much more than primary sterilization. Theoretically in this class of cases sterilization incidental to the Cesarean section is not warranted, no matter how many sections may be performed. Practically, however, common sense leads us to accede to the wishes of the patient and her husband if she has risked her life twice and does not care to assume the risk again. The following is an illustrative case:

Case IV, No. 1373, age 20, married, slightly, generally contracted pelvis, large child. Test of labor, no progress after 24 hours of labor. Delivered of male child weighing 10 pounds and 7 ounces, May 16, 1916. Mother and child made excellent recoveries. The second pregnancy differed from the first in that the patient suffered a great deal from nausea and vomiting and edema of the feet and ankles. Female child weighing 6½ pounds was delivered by abdominal Cesarean section May 6, 1918. At the request of the patient who claimed that she did not want to take the chances of a third pregnancy and operation and with the consent of the husband, sterilization was brought about by cornual resection. Mother and child made good recoveries.

7. Defects in the reproductive organs due to previous labors or operations.

There may exist certain defects in the uterus or its appendages or in the birth canal which render delivery by the natural passages extremely hazardous and undesirable. Time does not permit of the consideration of all the possibilities along this line. I will merely illustrate by the following cases:

Case V, No. 1518, age 37, married, housewife. Personal history negative, married and has three children aged, 8, 11 and 14; labors normal. For the past two years has known she had a fibroid tumor. Examination showed a large uterus with a fibroid nodule the size of a lemon on the anterior surface of the uterus and slightly to the left of the median line. As the patient had lost considerable weight and strength from excessive flowing, an operation was decided upon. April 21, 1919, the abdomen was opened and a club shaped adherent appendix removed after the fibroid nodule had been enucleated. The nodule occupied the entire anterior uterine wall and the uterine mucosa was exposed after the enucleation. The cavity was filled in by interrupted catgut sutures and the peritoneal edges brought together.

The case had been discussed prior to the operation with the physician in charge, with the patient and with the husband, and it had been agreed that it was inadvisable to take any chances in case of a myomectomy of a rupture of the uterus at a subsequent labor. Hence, it was deemed best at the operation to sterilize the patient by cornual resection which was done. Patient made a good recovery.

Case VI, No. 858, age 27, married, was operated upon for a complete tear of the perineum resulting from a protracted labor in a funnel pel-

vis and a large child. Examination showed the soft parts terribly lacerated and the vagina so contracted that the cervix could not be located. There was a complete tear of the perineum, the lower part of the rectovaginal septum being torn upward one inch.

October 2, 1912, the complete tear of the perineum was successfully repaired so that control of the feces and gas resulted. However, there was so much scar tissue in the vagina that the patient was advised in case of another pregnancy to be delivered by Cesarean section. On July 4, 1916, she was delivered by abdominal Cesarean section of a male infant weighing 7 pounds and 10 ounces. Both mother and child made good recoveries.

This patient was again delivered by abdominal Cesarean section November 29, 1918, of a female infant weighing 7 pounds and 12 ounces. Both she and her husband requested that she be sterilized at the second operation as they did not desire to take any further chances. The request seemed reasonable under the circumstances and tubal sterilization was performed by wedge-shaped cornual incisions. Both mother and child made good recoveries.

Incidental sterilization it seems to me was decidedly indicated in Case V. Here was a woman with an impaired and weakened uterus due to the removal of a large fibroid nodule. The resulting cicatrix was bound to be less firm than that resulting from a clean cut and properly sutured incised uterine wall. It did not seem right, considering the number of her children and their need of her, to let her be subjected to another labor with a uterus which, to say the least, would be handicapped.

In Case VI where there was a contracted outlet and a vagina almost obliterated by scar tissue, another delivery except by Cesarean section would have been not only dangerous but probably impossible. Here abdominal Cesarean section was clearly indicated, as was sterilization at the second section.

8. Operation of such a nature that subsequent pregnancy and labor are rendered dangerous.

Without attempting to enumerate all such operations, suffice it to say, that all abdominal or vaginal uterine fixation operations are contraindicated during the child bearing age unless accompanied by tubal sterilization. The truth of this statement has been borne out by the reports of dystocia and fatalities resulting from a neglect to sterilize, or the employment of the wrong technic with resulting pregnancy. The following is an illustrative case of incidental sterilization for operations of this type:

Case VII, No. 10,080, age 45, married, 2 children 21 and 23 years of age, was operated upon

for uterine prolapse February 1, 1919. The interposition operation was performed which consists in separating the anterior vaginal wall from the bladder and pushing the latter upward separating it from the uterus. The fundus is delivered through the anterior culdesac and tubal sterilization performed by cornual resection. The fundus is stitched to the resected vaginal walls thus holding the bladder upward supported on the posterior uterine surface. The operation is completed by an extensive flap splitting perineorrhaphy by which the levator ani muscles are brought together in the median line.

The patient returned home with her prolapse cured and in no danger of becoming pregnant.

In the large majority of these marked cases of prolapse, the women are beyond the menopause. Where they are not and desire more children another type of operation must be utilized.

SUMMARY.

1. Fetal life should not be destroyed or conception prevented except on the grounds that the mother's life is endangered by the continuance of the pregnancy or by the advent of future pregnancy.

2. There are two kinds of artificial sterilization of women: 1. Primary artificial sterilization. 2. Incidental artificial sterilization.

3. In primary artificial sterilization, the end in view is solely to prevent future conception.

4. Incidental artificial sterilization means the sterilization of the woman during the course of another operation in the belief that the patient's life or well being would be seriously impaired by future pregnancies.

5. Primary artificial sterilization will be comparatively infrequent, since the organic disease which calls for the operation at the same time renders it hazardous.

6. In the uncertainty of the woman with organic disease requiring sterilization, the physician will hesitate to advise this procedure when the uterus can be emptied with less danger in case pregnancy supervenes.

7. In incidental sterilization, the woman can be rendered sterile by a simple additional operative technic the dangers of which are practically nil.

8. All operations devised for temporary artificial sterilization are based upon wrong premises, since the indications calling for sterilization are bound to grow worse, never better.

9. As a rule a woman should never be sterilized without her consent and that of her husband, and of her family or other physician.

10. Careful study of the history of the patient, especially her puerperal history, her past

and present condition, will enable the physician to decide for or against primary and incidental artificial sterilization in:

1. Pulmonary tuberculosis.
2. Other forms of tuberculosis.
3. Disease of the kidneys.
4. Diseases of the heart.
5. Mental diseases.
6. Pelvic contraction.
7. Defects in the reproductive organs due to previous labors or operations.
8. Operations of such nature that subsequent pregnancy and labor are rendered dangerous.

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DISCUSSION.

DR. J. H. CARSTENS, Detroit: It seems to me there is nothing to discuss. The paper so thoroughly covers the ground in every direction that I cannot find anything really to discuss. Some of the little details we may have different views on, but the one general principle laid down is the most valuable of all, and that is, that each case must be considered individually. They are all different, and you cannot lay down any absolute rule. If we start with that, we will probably all agree.

In pulmonary tuberculosis I think it is a good rule that women should be sterilized. In cardiac trouble I do not think it is needed. Those women have children and get along fine. In kidney trouble I think it is more serious again.

As to the woman's consent, the woman's opinion is not a great thing. I do not care much what a woman tells me about what she wants or what she does not want. I know what is good and I'm the best judge of that job. Perhaps a woman comes to me and says, "I want to be sterilized, will you do this operation and make me sterile?" That woman does not know what I know. I can see into the future. She may have two children, but I have seen those children die and she would give anything in the world to have another child. Or I have seen this woman's husband die and she would marry again, or would be in a position to marry again if it were not for the fact that she was sterile. I have seen many of these cases. In the woman who has three or five or six children and is about the age where she will cease to have children, I think you are more justified in sterilizing that woman.

In the cases of insanity the Doctor talked of, I believe I am a little inclined the other way. I believe in eugenics and I think where anybody with those defects, where the tendency

is toward insanity, and where the woman has had trouble with the first child or the second child, it would be a good idea for that kind of people not to survive. I think we have enough of them to take care of. To support them is the "white man's burden," and I think we are better off without them.

In tuberculous peritonitis I object to removing the womb, the tubes and ovaries. Why? Because they are always young women and you sterilize them and ruin them for their lives. You operate for tubercular peritonitis and you cure them, and those women can be married and have children and have no future trouble. To remove the tubes and sterilize those women because there are a few tubercles on the tubes, I think is bad practice. Because there are thousands and thousands of tubercles around on the peritoneum everywhere you can put your finger, but those tubercles are going to be absorbed and disappear, and those on the tubes will disappear too. There is no doubt at all. We think the tubercles can come up through the uterus and infect the tubes, but they do not come up in that way at all. They come through the lymph channels. Nobody here has ever seen such a case. I have seen only one and I have probably seen more cases than any of the rest of you. I saw one case where there was a tubercle in the uterus, but they have no bearing at all as a rule. If the tube is destroyed, you have to remove the tube just as if she had no tubercular peritonitis, but there is no use to remove the tube because there are tubercles around on the tube the same as on the peritoneum otherwise.

The point about bringing on a premature labor in these cases I think is perfectly right in certain cases, but still I am the last one who does it. I do not like to interrupt pregnancy, but once in a while I have to do it to save a woman's life. Here comes the question of Caesarean section. A way back when we made abdominal section and it was a dangerous operation, cases away back in the days when no single case recovered, when for a hundred years in Vienna they did the Caesarean section and never a case recovered, an Italian said to take out the whole uterus and thus avoid infection. So we did the Porro operation and I did some of those. One case was a young woman and the child afterward died, and for years afterward that woman cried every time she met me and said, "Oh! if only you had not removed my womb, I could have another child," and that was a lesson to me and never after that did I do such an operation unless some other complication made it absolutely necessary. One patient I operated on four or five times by Caesarean section and after the third I suggested that she ought to be sterilized, but she was a good Catholic and wanted to keep on having children by Caesarean section.

So far as the consent of the woman's husband and family is concerned, that is a matter of fact. We must have a thorough understanding and they must understand the case. I think we ought to try and prevent pregnancy in those cases. The great thing is we talk a lot about pregnancy, but we do not know absolutely how to prevent it. There are all kinds of means employed and they are all more or less successful, and in those cases of the women who ought not to have children we ought to find a means to prevent pregnancy and then if they do become pregnant, we can interrupt the pregnancy and thus avoid the dire consequences of the continuation of the pregnancy.

DR. JOSEPH E. KING, Detroit: I would like to know what the opinion would be about the use of radium to effect sterilization in those individuals who are afflicted with nephritis, or for the purpose of producing temporary sterilization in the cases of women who may recover and eventually have children.

DR. JOHN N. BELL, Detroit: Mr. Chairman: I recall a case seen several years ago, a good Catholic woman with four or five children, and she and her husband requested sterilization. The operation was done and she afterwards was, I presume, chastized by the priest for having this done, and she became temporarily unbalanced from worry over the sin she had committed. However, later on she was restored to a normal condition by forgiveness and assurance that she had been forgiven for the act. It was a well-defined mental condition due entirely, I believe, to worry because of having the sterilization done. I think we ought to be very careful about sterilizing a woman without good reason.

DR. C. E. BOYS, Kalamazoo: Mr. Chairman: I endorse very heartily the points made by the essayist this morning, but I have a little stronger conviction about tuberculosis than Dr. Peterson suggested. I am intimately associated with Dr. Shepard of our city and he sees a great many of these cases. One woman became pregnant and it took three and a half years for her to be restored to her usual health. She became pregnant again and that time it took two years for her to be

restored on account of the tuberculosis, and because of the third pregnancy she is now down and out. I am of the opinion that that woman should have been sterilized after the first pregnancy. I have a nightmare about tuberculosis, I just abhor it and it always seems to me that whenever anybody has tuberculosis, even in an incipient form, they have just as big a load as they can carry without adding pregnancy to it, and even though we know that they may get through the pregnancy all right, then comes the real strain, the labor, the loss of blood, the exhaustion incident to the labor and pain, and then added to that, if she tries to nurse her baby, that is the straw that breaks the load and she goes down, often to stay. I believe where there is a definite tuberculosis, we have a really definite indication for sterilization. Of course, she should understand the situation, I agree with Dr. Peterson about that, but I do feel that if it were my own wife and she had tuberculosis in any form, I should certainly consider it an unwarranted calamity for a pregnancy to ensue.

DR. MARY WILLIAMS, Bay City: Mr. Chairman: I have a case of a woman who has two children and she has had, I think, about four or five miscarriages. Two or three have been in the early months. The two last times she has gone seven months and she came in the other day and said she had been advised to have her uterus removed. She had a badly lacerated cervix and I advised her to have that repaired and see if she could not go through a pregnancy. She wants children, has tried in every way to have them. The last miscarriage was in April when she had the flu, but she has done this every time. She says she simply has some feeling in her side as if something slipped down and then she is in labor. I advised her to have some operation on the cervix and see if that would not remedy the condition.

DR. REUBEN PETERSON, Ann Arbor, (closing): Mr. Chairman: In regard to Dr. Carstens' discussion, it seems to me that you cannot help bearing particularly upon the pathological grounds for sterilization. We have to continually keep these in mind. As I said in the paper, the minute that we begin to discuss these things with the patient we are lost, because there will be many social and economic reasons why it seems inadvisable for that woman to have any more children, or to have any child. If we attack it on the strictly pathological grounds, that pregnancy will endanger this woman's life, then the question of whether she should or should not be sterilized will be discussed. If, on the other hand, there is no pathological ground for her sterilization, we are just as much prohibited from discussing future conception in that woman as we are with the woman who comes to us and says, "Doctor, I am three months' pregnant and I am going to give a series of parties and this pregnancy is going to interfere with those parties," or, "My husband is only getting thirty dollars a month and I cannot afford to have a child," or any of the grounds on which they come to us. We have no right to discuss an interruption of the pregnancy on those grounds. Only when the woman's life is in danger are we justified in discussing the question.

Secondly, Dr. Carstens is right when says he pays no attention at all to the request of the woman, but we can go further and say if there are no pathological grounds. If there are pathological grounds, the woman should be informed of the danger. She has the right to risk her life if she wants to. If the woman says, "That may be true, but I want to have a child and I will not be sterilized" she has that right. That is why I am so opposed to the sterilization of the mentally defective. I do not agree with Dr. Carstens when he says he thinks we have enough of these people and we had better prevent descendants of these people as much as possible. The best alienists have said that only about 8 per cent. of insane women have descendants that are insane, where it can be proved that those descendants are insane. Consequently, we must deal with this question very carefully. It does not necessarily follow that where a woman is insane, she will have an insane child or that the child will become insane. For instance, look at the way we are importuned about epilepsy. Not a year goes by that I do not have women brought to me to have their ovaries removed because of convulsions occurring during the menstrual period. I have gone through that experience and have seen the convulsions occur just the same after the ovaries are removed. I would not sterilize a woman who had epilepsy, because it is by no means proved that a woman with epilepsy will have an epileptic child.

My experience is entirely different from Dr. Carstens in regard to tuberculosis of the uterus. In many cases we have established the diagnosis of tuberculosis of the pelvis and peritoneum from examination of the curetted material. In other cases where we have opened the pelvis without curetting

and found tuberculosis, the curetting of the uterus has shown tuberculosis present. In my experience many cases come from below upwards and infect the tubes. His statement that the tubercles are scattered around on the tubes and are of no particular significance is perfectly true, but in my opinion, the tubercles do come from below upward and infect the tubes.

In regard to Dr. King's inquiry, the paper was simply one on indications for sterilization and I did not take up the operative part of the question. The use of the X-ray and radium may be considered an operative means for the prevention of pregnancy. In my review of the literature I found that both X-rays and radium would produce temporary sterilization and permanent sterilization was not at all conclusive from the use of both these agents. Consequently, I would consider the use of these two agents as not at all proved as regards permanent sterilization. The literature is very unsatisfactory in that it shows all kinds of operations for sterilization and all of them have failed, even the resection of the cornua of the uterus and the burying under the peritoneum of a wedge-shaped piece from the uterus has failed. The tying off of the tubes and the resection of the tubes is a failure. Some men have devised means of shutting off and confining the tubes anterior to the uterus, but that also has been proved a failure. Some men have gone so far as to take the tubes and put them up in the inguinal canal and that has failed. All kinds of technique for sterilization has failed, but the cornual of the tubes has proved most successful.

As regards Dr. Boys' part of the discussion, here again I would fall back on my opinion that sterilization must be determined upon pathological grounds only. I contend that incipient tuberculosis and moderately advanced tuberculosis have no part in sterilization. If it proves necessary, the uterus can be emptied at any time. Where a woman has such advanced tuberculosis that her life would be seriously endangered by pregnancy, the mere operative procedure of sterilization would be dangerous.

In regard to the question of Dr. Williams, I should want to know definitely about the cause of the repeated abortions. Is it syphilis, is it the cervix, or what are the causes? Is her life seriously menaced by future pregnancies? According to her testimony I should say it was not seriously menaced and that the woman could not justifiably be sterilized. If her abdomen was opened and it was decided or proved that her life would be saved by cornual resection, I think the question should be considered.

SEROLOGIC EXAMINATIONS IN EYE AND EAR CASES.*

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The importance, far-reaching influence and significance of information supplied by laboratory diagnosis will be admitted to every one whose experience is at all extensive in the diagnosis and treatment of diseases of the eye and ear. The bacteriology of many diseases of these organs makes of itself an important chapter, but can only be referred to here in passing, fascinating as its study would be.

The phases of the subject to which attention is here directed are: 1. The Wassermann and allied reactions. 2. The tuberculin tests. 3. The complement fixations for various infections other than syphilis and tuberculosis. 4. The blood picture including total and differential blood counts for the white cells; the red count and the condition of the red cells—haemoglobin estimation and the presence of other cells of a

*Read before the Detroit Ophthalmic and Otologic Club.

transitional or adventitious type. 5. Urinary analysis, including other things than the presence or absence of albumen or sugar.

The latter, of course, is not a serologic test, but must be here considered in order to complete the diagnostic picture.

The Wassermann and allied reactions for lues is of so common occurrence and of such evident utility that not much need be said of its great value from a diagnostic, prognostic and therapeutic viewpoint. The blood Wassermann when negative, should be repeated after provocative doses of potassium iodide or very small doses of neo-salvarsan, to get accurate data.

It would seem advisable, however, to refer to the value of the Wassermann reaction in connection with a condition in the eye with which it is not perhaps so often associated. I refer to traumatism, in which the constitutional condition revealed by a positive Wassermann reaction not infrequently gives a new viewpoint on the prognosis and therapeutic management of the case.

A mental review of the disastrous traumas of the pre-Wassermann period as contrasted with equally severely injured eyes in which a positive Wassermann pointed the way to a more successful therapy is quite striking in some cases. The following brief history illustrates this point:

M. L., age 36, male, metal worker, received a severe contused wound of the cornea of the right eye, the missile being a large piece of metal hurled with great force from a machine.

The vision was reduced to good perception of light and good projection. The cornea was found bruised and the epithelial layers desquamated over the central area. X-ray examination negative. Tension normal. A good prognosis seemed justified provided a choroidal rupture through the macula had not occurred.

For five days after the injured eye progress was very satisfactory. The blood in the anterior chamber cleared so the pupil became visible. The lens was not dislocated.

The eye then became very painful. Irido-cyclitis supervened and after a few days the tension rose to 60 mgm. mercury as shown by the Shiotz tonometer. The vision, which heretofore had been rapidly improving, quickly deteriorated, the cornea became hazy, the iris discolored and the ciliary region tender when palpated. A small nodule of a yellowish-gray color began to form in the iris.

The secondary glaucoma was the most disconcerting element. Was it due to a dislocated lens? Or was it due to plastic irido-cyclitis, and what was the cause of the latter? Should we trephine? Or do an iridectomy?

The nodule in the iris suggested lues or tuberculosis. A Wassermann was done and showed a ++++ positive reaction. The case was per-

fectly cleared up by bringing the man to the point of salvation by intensive mercurial inunctions.

In the matter of interstitial keratitis the Wassermann reaction has reduced lues as an aetiological factor to well below 50 per cent. In Moorfields, when I was a student there in 1886-87, Nerthship placed syphilis well up in the 90 per cent. class as a cause of interstitial keratitis.

The same may be said of choroiditis or in fact of uveitis.

There have been several cases of delayed healing of the wounds after enucleation of the tear sac and after mastoid operations which have shown positive Wassermann reactions and thus given information which led to a constitutional therapy, which soon brought about a favorable termination.

THE TUBERCULIN TEST.

Local—(1) Calmette; (2) Constitutional as exemplified by temperature variations and the skin reaction of von Priquet have all played a most important role in properly classifying the aetiology of various eye affections. Where syphilis has lost in popularity as a causative factor, tuberculosis has gained, thus many more cases of interstitial keratitis are now recognized as tuberculous in character than was formerly thought possible.

So, too, in the choroidal affections many are now known to be tubercular where formerly they were looked upon as all of luetic origin.

The calmette test is unsuitable and dangerous for use in eyes which are the seat of tuberculous lesions. There is also a danger in such cases of a diagnostic dose producing an undesirable focal reaction in such an eye.

The tuberculin test, which is most reliable as of true diagnostic value, is that by diagnostic doses of tuberculin and observing the reactions produce local, focal and most important of all, constitutional as exemplified by variations in temperature, a record of which must be kept for several days preceding the giving of the diagnostic dose.

The tuberculin test, which is of least inconvenience to the patient and freest from danger to the eye affected with a tuberculous deposit, is the skin test of von Priquet. While it is generally recognized as of but little value as a reliable test for active tuberculosis because a very high percentage of adults will show a positive reaction, nevertheless the test has an extremely important role to play as an indicator

of the probable most successful plan of treatment to be employed in a given case.

Here is a personal observation which is given you out of a very large experience in a wide range of ocular affections, including episcleritis, scleritis (superficial and deep) scleritizing keratitis, deep punctate keratitis, interstitial keratitis, irido-cyclitis, choroiditis with vitreous opacities, chronic and relapsing irido-eyelitis. When an individual carrying any of the above group of ocular affections shows a positive von Priquet reaction his eye affection will yield to gradually increasing doses of tuberculin given at five day intervals.

In the rather rare combination of a positive Wassermann and a positive von Priquet, salvarsan, mercury and tuberculin will all need to be employed to bring about a cure. But it will surely need the tuberculin if the von Priquet be positive.

The following is a striking example of the value of this test:

CASE II.

An example case of an old lesion in the choroid being improved with tuberculin therapy.

A girl 23 years old, who had failing vision for several years and repeated examinations and intense luetic therapy, with no results. The Wassermann in this case was negative, and the von Priquet was positive as done in our office. She was put on the tuberculin treatment as outlined for adults, and after three months' treatment the vision in the right eye had improved from 6/30 to 6/12, and the left eye from 6/60 to 6/20. The case was continued under treatment and when examined three months later the improvement in the right eye had been maintained and the left eye improved to 6/15.

A search had been made in this case for focal infection and her tonsils had been removed by enucleation. This operation was followed by some improvement which however had ceased to progress when the tuberculin treatment was instituted.

Example of a long-standing keratitis, a boy 20 years old, seen May, 1918, with a history that one month previously the left eye suddenly became inflamed and painful to light. There was a history of similar trouble at a previous time. He had been under treatment by a physician receiving luetic therapy. The eye had gradually gotten worse, when I saw him the vision was reduced to counting of fingers at three feet, the pain was reduced. Extensive pannus and ulceration. He had been advised by his doctor to have the eye removed. He had von Priquet and Wassermann examinations made, the Wassermann being negative and the von Priquet

strongly positive. The boy promptly improved and in July had a vision of 6/60, which could be improved with a glass to 6/15. The boy has been seen at intervals and the eye has remained perfectly quiet and the scar is gradually diminishing. This is a case where failure to have proper serological tests had led to prescribing an inefficient therapy.

The preparation used in treating tubercular cases in the office has been an aqueous solution of old tuberculin as prepared by Parke, Davis & Co., of which 1 c. c. represents 1/100,000 mm. of the old tuberculin. The dose given hypodermically gradually increased at weekly intervals, the initial injection being 2/10 cc. in children, and 3/10 cc. in the adult case. This was increased in the case of the children by 2/10 cc. dose weekly until the maximum dose of 1 cc. was reached, while in adults it is increased 3/10 cc. until the maximum dose is given of 1 cc. As a rule it has been possible to increase the dose each week by 2/10 cc. or 3/10 cc. In cases where severe reaction followed the last dose, the strength dose, at the previous injection was repeated but not increased. In general the therapeutic results accomplished followed very promptly, even as early as with the second injection, children having responded more readily than adults.

As an example of a remarkable result in a child, a boy 4 years old, whose father died of tuberculosis two years previously, came to the office in August, 1918, for phlyctenular keratitis. This cleared up with local treatment and tonic. Child had a recurrence in November accompanied with a very severe conjunctivitis and a purulent discharge and the cornea became quite cloudy. The local treatment and tonic was repeated but the case progressively got worse. A von Priquet was done. The von Priquet was positive and the Wassermann negative. The mother was strongly opposed to the hypodermic therapy, but after considerable persuasion was induced to give this boy the treatment. The results were immediate. Following the first injection the discharge was greatly reduced, the swelling of the lids began to subside, the photophobia and lacrimation was absent and the cornea began to clear. The treatment was carried on as outlined in general for children and after three injections the child was apparently recovered, the lid surfaces being smooth, shiny and the cornea clear.

As an example of another acute case of a child—a colored girl, age 12, came in the office

in January, 1918, with a history of the eyes being inflamed and red for one week, lids sticking in the morning, and the eyes very sensitive to light with a great deal of tears.

Examination showed a purulent conjunctivitis, the cornea spotted with infiltrations and quite hazy. The Wassermann was negative and the von Priquet strongly positive.

She was immediately put on the tubercular treatment as outlined for children, and after taking two injections there was a very marked improvement in all symptoms. The girl dropped out for three weeks and when she returned to the office was in a very bad condition, after three more injections the girl's condition completely cleared up.

This is a case where without a serological report we would have been very likely to describe the etiology as being luetic.

The possible influence of tuberculosis as a cause of phlyctenular keratitis is one which has received much attention and many comments both favorable and unfavorable. There seems no doubt now that tuberculosis must be included as at least one of the principal causes of this disease. In this as in all other clinical manifestations under consideration one must admit that it is probably only *one* of the causes, and its proper place given in the list of aetiologic factors and a due amount of consideration given tuberculin in laying out a line of treatment.

The advent of tuberculosis as a cause of episcleritis, superficial and deep scleritis and scleritizing keratitis, and the employment of a tuberculin therapy in such cases has added much to our ability to successfully cope with these very stubborn ocular lesions.

THE COMPLIMENT FIXATIONS.

Of the study of this phase of the serologic diagnosis in eye diseases a preliminary report only can be made.

This much can, however, be stated, that with a positive fixation for the gonococcus much can be done by the use of an antigonococcus serum for the cure of stubborn and recurring attacks of irido-cyclitis, which must be looked upon as an ocular manifestation of so-called gonorrheal rheumatism.

The following is the complement fixation tests in nine cases of recurring irido-cyclitis which showed a negative Wassermann and a negative von Priquet:

1. Sept. 25, 1917. Friedlander—Strongly
E. N. Pseudo-Diphtheria—Weakly

2. Sept. 25, 1917. Colon—Strongly
G. A. Pneumo—Weakly
3. Oct. 3, 1917. Friedlander—Strongly
B. K. Staphylococcus—Strongly
4. Oct. 5, 1917. Friedlander
S. F. Pseudo-Diphtheria.
5. Oct. 9, 1917. Streptococcus
R. W. Colon
Staphylococcus
6. Nov. 7, 1917. Streptococcus
G. A. B. Pneumococcus
7. Nov. 18, 1917. Streptococcus—Strongly
H. G. C. Influenza—Strongly
8. Nov. 20, 1917. Streptococcus—Moderately
J. B. S. Pseudo-Diphtheria—Weakly
Pneumo—Moderately
9. Sept. 29, 1917. Staphylococcus—Weakly
Friedlander—Strongly

It would seem not unlikely that all these nine cases of recurring irido-cyclitis showing a negative Wassermann and negative von Priquet reaction had their aetiologic factors in focal infections such as the teeth, tonsils, adenoids, accessory nasal sinus, appendix, gall-bladder or prostate gland. A very important field of investigation would be this: When a focal infection is found, to make a bacteriologic study of the germ life at that focus and see if it could be co-related with the complement fixations.

In two or three cases this has been done where the focus was found to be an apical tooth abscess.

However, not enough material is yet at hand to make a worth-while report, but it can be said that as far as it has gone the results are at least encouraging for a basis of a clearer aetiological diagnosis in these cases.

THE BLOOD PICTURE.

But little need be said about the importance of this phase of the subject. There are, however, two observations which should be presented to you and two cases to be referred to in this connection.

In the blood studies of quite a large number of cases of irido-cyclitis of the acute type it was found that many showed a low white count, showing a reduced resistance. Many of those cases were placed upon large doses of sodium salicylate and recounts made of the blood during the progress of these cases, and this common thing was observed:

In those cases showing an improvement in the eye conditions there was always an improvement in the white cell count, and when the irido-cyclitis reached a stage of complete cure the white cell count was above normal.

In other words, a medicinal leucocytosis has been induced.

Did it raise the resistance, and thus materially help in controlling the infection?

Again, many cases of retinal hemorrhage, especially those past middle life, will show in the blood picture a polycythaemia rubra. The exhibition of pot. iodide when followed by absorption of the retinal hemorrhage is also accompanied by a return of the red count to normal.

CASE III.

Baby S., age three years. A case of tympanic infection with mastoid tenderness which had existed for three weeks when brought under observation. The child was extremely pale and of a grayish color. Temperature 99 to 100, pulse 110 to 120. Extirpated cervical glands.

This child's appearance was so far from satisfactory that a complete blood count was made which showed, in addition to a marked leucocytosis, a clear picture of lymphatic leukemia. Death took place without the help of surgery within forty-eight hours.

CASE IV.

G. J. Severe injury of right eye through the ciliary region seven weeks before coming under observation. When first seen, a full blown case of sympathetic inflammation was found, the sympathizing eye showing plastic irido-cyclitis-synechia ciliary tenderness. Here is his blood picture:

You will observe that the large mononuclear cells are not increased. He showed a negative Wassermann and a negative von Priquet. Perhaps this case is the exception which proves the rule, or is the mononuclear increase present only in the period preceding the onset of the sympathetic ophthalmia? I do not know.

THE URINARY ANALYSIS.

This phase of the examination is interjected at this point for two reasons: First, because itself it gives very valuable information in many ocular affections; and second, because the gastro-intestinal tract can undoubtedly be the origin of an infection or a toxemia which has in its clinical course a local manifestation in the eye, and furthermore this departure from health in the gastro-intestinal tract will frequently be manifest by the presence in the urine of such products as indican, acetone or diacetic acid.

Of late, also, some very valuable work has been done by the examination of the feces in ocular manifestations having their origin in the gastro-intestinal tract.

The work of Bouchard some twenty years ago on autointoxication still has a value for the ophthalmologist, and the more recent work of Dr. Meyer of the absence of the colon bacillus in cases of recurring eye infections are interesting and important.

The routine serological examination in eye infection of various types involving the eyeball itself should include:

1. A Wassermann blood or spinal or allied tests.
2. A von Priquet skin reaction for tuberculosis.
3. Complete blood picture.
4. The various complement fixation tests.
5. Complete urinary analysis.
6. Examination of the feces.

DISCUSSION.

DR. ALBERT E. BERNSTEIN, Detroit: The idea that tuberculous infection is the cause of so many eye troubles is not at all new, but it is a good thing to bring out. I think a great number of us when we see a case of keratitis, almost immediately think of syphilis. I remember some twenty years ago seeing Michel of Berlin and some of his work in tuberculous eye infections. He was laughed at on every hand, but he had one hundred twenty cases that were proven to be tuberculous.

In regard to children and the incidence of tuberculosis as a causative factor, one always has to bear in mind that tuberculosis is not at all uncommon in children. In fact, I believe it is pretty well admitted by pediatricians that nearly 85 per cent. of children go through a tuberculous phase before they are fifteen, and undoubtedly in that period the von Priquet would be positive. I do not mean to say that nullifies the work of Dr. Campbell, but it must be considered.

I remember two patients I had, two brothers, one thirty-two and one thirty-four, who had repeated attacks of iritis, and the iris was found down approximately in the anterior capsule. Before each attack—this man had had a half dozen—he had a discharge from the urethra. I tried to get him to go to a G-U man, and I do not know whether he did or not. Both he and his brother had had these attacks, always preceded by this discharge.

DR. WILFRID HAUGHEY, Battle Creek: Dr. Campbell brought up the necessity of the complement fixation test in the presence of focal infections. It strikes me if you do a complement fixation test you will get positive results for the germs that are present at the site of this infection rather than for the germs that are causing the lesions in the eye. One would naturally expect that the flora of the serous infection, whether it is tonsils or sinuses or what, would show the same germs that would be developed by the complement fixation test.

DR. DON M. CAMPBELL: To me the most interesting part of the subject is the focal infections and their influence, and the possibility of future study along that line. How are we going to establish the connection between a focal infection at the apex of a tooth and an inflamed iris? It is very well to say that a patient has an abscess of the second molar and an iritis, but it is very interesting to know how it happens and the germ through which the infection is conveyed. It seems to me a study of the connection between focal infection and the result of focal infection in the eye and other parts of the body would be of very great interest and might be of practical importance as well.

MULTIPLE FISTULA (OF ANO-RECTAL ORIGIN) WITH SPECIAL REFERENCE TO THE USE OF DAKIN'S SOLUTION AND THE PLASTIC SKIN-FLAP.*

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DETROIT, MICH.

A fistula is a covered tract resulting from an imperfectly drained abscess, and complicated by chronic supuration.

The earliest records disclose evidence that fistula often existed, and pictures are reported showing surgical treatment.

It is not the purpose of this essay to exhaust the subject, but to portray as clearly as possible the cause of fistula, its principal varieties—the diagnosis, surgical treatment, and after care; referring especially to the use of the Carrel-Dakin Solution, and the application of a plastic skin-flap operation, as suggested by the “skin sliding operation” of Beck, which has been so successfully used in chronic empyema.

The inciting factor will be considered first, so that the principal varieties subsequently named may be more clearly visualized. If you will picture mentally, an ano-rectal infection with its resulting abscess: The patient's attention is first attracted by distress—possibly a fullness and dull ache upon defecation—often by sharp lightning like pains, gradually increasing to a persistent throbbing ache; there may be a chill, and marked rise of temperature; the more deeply seated the abscess, the more generalized the symptoms. Such an abscess may develop slowly or rapidly; if slowly, its activity may subside for a few days or a few weeks, or may occasionally recover. If development is more rapid and persistent, it may open on the perineum or into the anal canal: such drainage affords temporary relief of tension, and the opening or outlet may plug or heal temporarily; subsequent development often finds it opening at another location, either inside or outside, followed again by a so-called “cure;” this process continues for weeks and years, increasing in extent as the earlier tracts cicatrize their walls, and new fields are invaded. The ano-rectal region affords every opportunity, anatomically, for the pus to burrow, on account of its loosely constructed tissue, with the fascia walls as a guide. Thus is explained the tracts leading to

the kidney, the diaphragm, scrotum, labia, and various parts of the body, where lakes of pus are often developed, making successful treatment at times almost hopeless.

Further contributing factors are incubation of the abscess by poultice, “allowing nature to take its course,” and the timid incision for drainage.

The openings of fistulae determine the classification, though the specific anatomical location may be used in their nomenclature. We have simple complete, (with opening inside and outside of the anal canal); in-complete which includes Blind internal (opening inside), and Blind external, (opening outside). Muco-cutaneous and sub-mucous are self-explanatory, being named from their anatomical involvement, or location.

Multiple fistulae need not necessarily open inside the anus, though they usually do, but are named from their numerous openings and tracts, no matter when they are located and where they lead to. It is unusual for fistulae to have more than one internal opening, though occasionally they are seen with many, both outside and inside.

As to bacteriology, it is sufficient to say that the colon bacillus usually predominates in the abscess, subsequently allying itself with the various bacteria found in mixed infection. The tubercle bacillus is a factor in a comparatively small percentage of cases, and it seems reasonable to suggest that in most of those cases lowered resistance in the individual is more responsible for the fistula than a primary tubercular infection. Syphilis is a factor to be dealt with in treatment, but is not a cause of fistula.

The diagnosis is established by the personal history, careful external inspection, digital examination, anoscopic inspection, followed by the determination of the extent and location of the fistulous tracts; this determination is more easily made now, with our improved technic than formerly. Text books, and much of our current literature advise the opening and removal of the tracts, but fail to make clear how to successfully find them.

The writer, among others, uses a mixture of some white powder—preferably bismuth—mixed with vasoline, which is injected, while warm, into one of the sinuses; as it appears at other openings, they are covered by a finger, thus forcing the mixture throughout the fistulous system; using an anoscope or an anal retractor, the posterior anal wall is first observed, and will

*Read before a General Meeting of the Wayne County Medical Society, Detroit, April 21, 1919.

most frequently display a "show" of bismuth paste during the injection, which should locate the only internal opening in the majority of cases. Further investigation is always advisable. When injecting for stereoscopic X-ray pictures this procedure is continued slightly, with a finger covering the internal opening, hoping thus to further and more certainly fill the abscess cavities, and any unfilled tortuous tracts. The parts are cooled with cold applications for two minutes, still retaining the bismuth with the fingers; at this time, if any excess bismuth is in the rectum, gently mop it out with a wet sponge, and clean any bismuth paste from the outside skin before making the exposure. Many unsatisfactory pictures are due either to poor technic or to extreme sensitiveness and nervousness on the part of the patient. Satisfactory injection requires practice, and in selected cases an anesthetic is necessary.

The writer wishes to advise against the use of probes, as being painful and inaccurate in any but the simple straight tracts; the right kind properly used is very useful during operation. Methylin-blue and peroxid mixtures, are useful and more cleanly where location of an internal opening and simple office investigation is desired; for accuracy, stereoscopic pictures are absolutely necessary.

Tubercularly infected fistulae are recognized by the pink flabby granulations around the openings—the silky anal hair—and by the presence of the bacillus tuberculosis. Metastasis from fistula is frequent, dangerous, and often fatal; cases of brain abscess and spinal abscess of pure colon bacillus infection, being within the writer's recent knowledge.

The prophylactic treatment consists of early radical incision of the abscess, with free drainage. The vaccine treatment, both as a prophylactic and a curative measure, is a failure.

Medical or palliative treatment is useful only in preparation for operation; we are excepting only those who refuse surgical methods, and some few where operation is inadvisable.

It is wished to acknowledge the results obtained by Emil G. Beck of Chicago, in the non-surgical use of bismuth paste, and the remarkable results obtained in the many inoperable fistulae, which he has demonstrated to us. Such treatment in operable fistulae is impracticable, owing to the length of time required, the lack of skill and equipment by the average physician who would use it, and the almost universal failure to secure recoveries. Such fail-

ures are not only disheartening to the patient, but owing to the lost time and resistance, a definite damage has been wrought; such disheartened patients are poor advertisements for the medical profession as a whole, and are very apt to discredit the more approved and successful methods.

The operative or surgical treatment is preceded by an early cleansing of the intestinal tract with free catharsis and enemata; the fistulous system is thoroughly irrigated with a 25 per cent. solution of peroxide and boric acid, if possible and feasible; fluid diet only is allowed following the cathartic. After administering a general anesthetic, the perineal exposure or lithotomy position is obtained, the rectum thoroughly cleansed with a creosol solution, and the field of operation sterilized after necessary shaving. The technic of bismuth injection is again carried out, and with soft silver wire probes about six inches long, the main tracts are located, if possible; this procedure often requires some patience, but one is rewarded, if successful, by a simplified and more rapid technic. When the main or accessible tracts, one or more, are located by passing a probe clear through, they are opened with a knife or scissors, entirely freeing the probe; it is often possible and desirable to dissect out the tract with the probe insitu. When more than one opening into the anal canal is found, the second tract is opened only as far as the sphincter muscle, through which is threaded a piece of heavy silk, looped and tied to be used later as a guide in completing the incision; this further procedure is not attempted until the other muscle incision is well granulated, or as is quite possible when using Dakin's solution, reunited by secondary suture. No apprehension need be felt over lost sphincter control, since the muscle is severed in but one place at a time—as one would cut through the hub of a wheel by following any one of the spokes. When the operator is unable to insert the probe by gentle patient effort, the tracts are opened, using the bismuth paste therein as a guide; open all that can be easily found and sponge away the paste, then by gentle manipulation and probing, small off-shoots and side tracts may be discovered as evidenced by a "show" of bismuth paste; often these tracts lead to cavities of considerable size, which would mean failure and recurrence if undiscovered. The epithelial and cicatricial lining of the tracts and any areas suspected of small, even hair like tracts, must be excised; the areas laid

open are often extensive and formidable; no chance whatever should be taken. If the surgeon is not most thorough, radical and painstaking, the operation might better not have been done, since recurrence is almost inevitable.

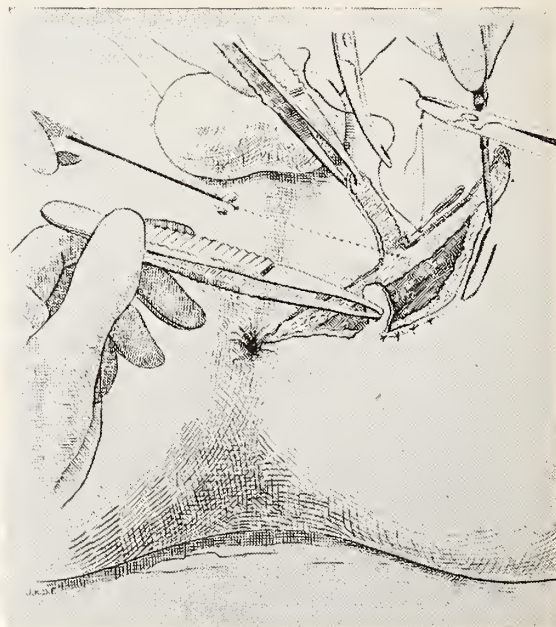
With this technic, multiple fistulae can be successfully operated, though the results of the operation are often spoiled by inexperienced and careless after-treatment. Bridging over of the tracts during granulation is a great source of danger; the smallest healed-in pocket means recurrence. Examine the cases during the course of healing frequently, to avoid bridging.

The simpler varieties such as the muco-cutaneous, sub-mucous, simple complete, the blind external and blind internal are amenable to successful treatment in one's office, using a local anesthetic.

In operating on blind internal fistula, in which the indurated abscess cavity is easily palpated outside, and with internal opening in the anal canal, it has been found by the writer desirable to first cut into the abscess cavity from without, thus making a simple complete fistula to deal with; when the abscess cavity is more palpable inside the rectum, the free incision should be made at the site of the internal opening, laying the cavity fully open, and thus avoiding a complete fistula.

At the close of operation, tags, and free ends of skin are cut away, and the open surfaces and cavities packed with gauze moistened in Dakin's solution; packed to control hemorrhage, which at times is annoying, but which has never been found alarming. A perineal binder is tightly applied, and the patient sent to his bed; the attending nurse inspects, and if necessary, changes the outer dressings every hour for three or four hours. The patient is then allowed to thoroughly react, and at the end of twenty-four hours, all gauze packing is removed; a hot sitz bath given and the parts irrigated with Dakin's solution, every three hours—day and night. It is permissible to adhere to the strict Carrol-Dakin technic if it can be applied. A hot sitz bath precedes a change of dressings night and morning. The bowels are moved by castor oil or other suitable cathartics on the fourth or fifth day, and kept open by a daily enema given before the morning bath.

In six or seven days, infection will have become so inactive, that in the deep extensive wounds and broad uncovered areas it has been found desirable to place flaps of skin into the depths of the wounds where they become adherent within thirty-six to forty-eight hours. The application of this method partially covers the area with skin, thus greatly hastening recovery, since in the older technic the deep parts must fill by granulation first, necessitating a much longer time to heal. The technic of this operation is simple, and by its use it is possible to shorten convalescence following extensive fistulae often by several weeks.



The application and technique of the "Plastic Skin Flap" in extensive fistula.

PLASTIC SKIN FLAP OPERATION.

(See illustration.)

Along the edge of a wound to be treated, a strip of skin is marked off by two parallel incisions made with a keen-edged knife; the proximal incision is extended—the width of the proposed flap—longer, at the end which is to remain permanently attached; a narrow margin of skin is left between the proposed flap or strip of skin and this wound; the width and length of the flap is determined by the shape and size of the raw surface on which it is to be used; the flap is undercut as near the true skin, and as free of fat as possible; its attachment at one end is severed as illustrated and the two edges of the now uncovered raw

surface, beneath the flap, are brought together and sutured with cat-gut, starting suture at the angle of the attached end; we have now a pointed strip of skin attached at one end and turned down into and partly across the open fistulous tract; this necessarily crosses a section of the narrow margin of skin mentioned, this section is cut out, thus allowing the plastic flap to contact with uncovered tissue in its entirety; this plastic flap can usually be kept in place by a careful pressure-dressing for forty-eight hours, which is sufficient for attachment, though a stay suture is permissible. Bismuth paste is applied at this time with the pressure-dressing.

This plastic operation may be carried as far around a wound as seems desirable by repeating the procedure, described. It must be understood that the intention is not to cover the entire area at once, but furnish large healthy flaps of skin to follow the contour of the area at intervals for subsequent joining by skin proliferation.

It is very desirable at this secondary operation after the use of Dakin's solution, to close the distal (from the anus) ends of these open tracts by suture, thus, is combined secondary suture with the plastic skin-flap operation.

The daily baths and earlier treatment with Dakin's solution are resumed after the forty-eight hours have elapsed, as a prophylactic and cleanly measure.

The writer wishes it understood that in this essay he has simply tried to point out the application of some rather recent and proven methods in a new field, and his experience with the plastic skin-flap in a comparatively small series, should be considered more in the nature of a preliminary report at this time.

REPORT OF CASE HISTORIES.

A resume of twenty-six consecutive case histories of fistulae from among the writer's personal cases in Harper Hospital prior to January 1, 1919, and covering a period of about twelve months, are here recorded.

The average number of days spent in the hospital before discharge is thirteen days; the least number of hospital days was two, and the greatest number was forty-two. The average duration of the fistulae prior to operation was fifty-

seven and one-half weeks, as near as it was possible to ascertain from the histories; the least number of weeks duration was two, the greatest number two hundred and sixty. From the twenty-six cases, there were five which gave a positive Wassermann reaction, and there were five positive tubercular findings. The results show twenty-three to have recovered, two to have shown marked improvement, and one to have died after six months from pulmonary tuberculosis. There were three recurrences requiring a second operation, all of which are now recovered. The two cases recorded as "improved" were tubercular cases.

About 40 per cent. of the cases have been treated with Dakin solution, and 25 per cent. with the plastic skin flap. The period of convalescence following operation has seemed to have been much shortened by this method. One case of five years standing with positive tubercular findings, and the most extensive case in the writer's series, had been previously operated upon; she remained in the hospital forty-two days, with a recovery complete in eight weeks. In this case the plastic skin-flap was used twice following the original operation.

Eighteen less severe cases, and not included in this series were operated by the writer in his office under local anesthesia with but one recurrence. Approximately twenty cases have been operated in the Out-Patient Department under local anesthesia, with no recurrence as far as can be ascertained.

Percentage of recoveries in the series of hospital cases is 88.4 per cent. Percentage of those showing tuberculosis is 19.2 per cent. The percentage giving a positive Wassermann is 19.2 per cent. Percentage of recurrences in major cases is 11.5 per cent. and in the whole group of sixty-four—the percentage is 6.5 per cent. Eleven and five-tenths per cent. recurrence, or three out of twenty-six major cases may seem too many, but when it is considered that we are dealing with infected multiple tracts, many of which are very minute and in an area very subject to contamination, an occasional recurrence is to be, at least tolerated.

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The Journal

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December.

Editorials

GREETINGS.

The season of the year is once more here when the decrees of custom call for the extending of Holiday Greetings. In the past in each December issue we have proffered to all our members, advertisers and readers the *Journal's* good wishes for a Merry Christmas and a Happy Prosperous New Year. In doing so we endeavored to cause that greeting to include more than a perfunctory expression—we were sincere in our intent that each one reading our editorial greeting would perceive it to be a personal message and not an observance of a custom that was being complied with.

And so again, this season, we extend to all our members, advertisers and readers, the personal greetings of *The Journal* for a Merry Christmas and a Happy Prosperous New Year. Merry in the sense that the holiday season will be filled with cheer that rejuvenates and begets contentment. Happy and Prosperous in their fullest meaning for each who enters upon 1920, a year that is fraught with so much that is for good and evil.

We sincerely hope that to each there will accrue that measure of prosperity that will enable

us all, individually and collectively, to reap a full measure of friendship from all with whom we come in contact in addition to financial gain.

THE VENEREAL DISEASE LAW.

Last month we published the text of the Venereal Disease law that was enacted by our last State Legislature. Since then we have heard of some discussion on the part of the profession, some criticism, some threats of rebellion and in certain instances open declaration of intention of not complying with the provision of this act.

We cannot quite conceive how or why any of the profession should attempt, at this late date, to refute the purposes of this law or assume antagonistic and belligerent attitude. The law is a distinct step in advance and commendable asset in the fight to eradicate the "black plague." It is conceded that the reporting of tuberculosis, and thus gaining information as to the extent of the disease, enabled our tuberculosis organizations to combat that disease in the successful manner in which it has been done. The same object will be attained in regard to venereal disease.

The day is past when we are to look upon the venereal disease problem as a social or moral problem. It's a problem of fact that must be combated by facts and infected carriers restrained by quarantine and treatment. Segregation is recognized a failure; moral preaching is ineffective and accomplishes naught. Its prevalence and spread cannot be limited without waging war upon it according to methods that have been demonstrated to attain results in combating other infective and pestilential diseases. This law enables the employment of public health eradication and prevention methods to be instituted. It prepares the way and provides a means. While it is true it will work a hardship on some, nevertheless, its beneficial results will exceed any temporary discomforts.

The time consumed in reporting the cases is negligible—no more so than in tuberculosis, smallpox, typhoid or the other reportable diseases. If the great objection is that one is not remunerated for making this report we dare say the Board of Health will provide a fee. The prohibition of dispensing by physicians is not worthy of argument for it is vastly recompensed by the prohibiting of counter prescribing and dispensing by drug stores. The "C. V. D." on

prescription blanks and the name, address of patient and date, is a trivial time consuming requirement. So what is there to "kick" about or object to?

We recommend that the objectors inform themselves of the plans that are being made by the U. S. Public Health Service and the work that that service is already doing to limit the spread of venereal disease. We urge that they familiarize themselves with what was done in the army and navy and the ends that were attained. We urge that they write Dr. Byington of our State Health Commission and secure informative data as to the work that has been done in Michigan in the past two years. Then, if after digesting that information one still remains antagonistic, we recommend that a visit be made to the quarantine wards of several hospitals. We are sure that a change of heart will occur and cause for objection will disappear.

We would regret sincerely any obstructive methods from the organized profession of Michigan. We bespeak whole-hearted co-operation to Health Authorities in their administration of this law.

We append a concise statement of the law, extracted from the Bulletin of the Wayne County Medical Society.

C. V. D.

The editor is indebted to Dr. Don M. Griswold, Director of Medical Service, Board of Health, for the following excellent abstract of the recent venereal law. Learn it and file it for reference.

It is hoped that all the members of the W. C. M. S. will co-operate and abide by the law, thereby helping to reduce the number of syphilitics in Detroit to below 100,000.

Section 1—Syphilis, gonorrhea and chancroid are infectious diseases.

Section 2—(a) The State Department of Health will make rules and regulations to prevent the spread of these diseases.

(b) Blanks for reporting cases will be furnished to physicians upon request.

(c) All cases of the diseases must be reported. These reports are not to be public records.

Section 3—(a) The State Department of Health is to provide treatment in proper institutions for such cases.

(b) Cases under treatment in institutions shall be deemed to be in quarantine.

Section 4—(a) A physician who fails to report a case is subject to a fine of \$1,000.00 or

imprisonment in the county jail for one year, or both.

(b) Any person who shall break quarantine for venereal disease shall be subject to a fine of \$1,000.00 or imprisonment in the county jail for one year, or both.

Section 5—(a) No druggist or pharmacist shall give or sell any drug or medicine whatever for the treatment of syphilis, gonorrhea or chancroid.

EXCEPT

on a prescription.

(b) This prescription must bear:

1. Name of the patient;
2. Address of the patient;
3. Date of writing;
4. Date of filling;
5. The letters "C. V. D."

(c) These prescriptions shall be numbered consecutively and shall be kept on file for at least two years.

(d) This file of prescriptions shall be subject to inspection by the

Prosecuting Attorney;

Commissioner of Police;

Commissioner of Health;

or their authorized representatives.

(e) Druggists must make detailed monthly reports to the State Department of Health of all such prescriptions.

(f) No person shall treat another for syphilis, gonorrhea, or chancroid *except that* duly registered physicians may give office treatments.

(g) Violations of this section by druggist or physician may be sufficient reason to revoke their license and impose a fine of \$1,000.00 and imprisonment for one year in the county jail.

Bristles.

The world at large has just been let in on the secret that the 8 hour day is too long and will soon be a thing of the past and it has even been doped out that production will not only NOT suffer thereby but increase.

We merely mention the above to bring to your attention the extremes to which "organization" can be carried, for the little old law of average tells us that it can't be done. Aside from this, we all must admit that the organization of labor is so nearly perfected that they can almost put over anything and get away with it.

Don't think that we advocate any radical movements by the medical profession, a body that stands "head and shoulders" above any other class of professional or vocational men. What we do mean, though, is, if "day labor" can secure the "Life of Reilly" for its cohorts, then the medical profession, co-operatively, can, at least, get to the point where they can command their own self-respect and make humanity recognize them as men and not as a necessary evil.

This can't be done by thinking, wishing or grouching, but it can be accomplished by one grand "get together" policy. We can't hope to promulgate the eighth wonder by lining up the physicians nationally but we can give them a wonderful start by putting Michigan out in front in the getaway.

The first horse under the barrier always has the choice of the rail and with any kind of leadership continues to show the way.

It may be wrong to try to create a simile between the question that is as vital to us as life itself and a horse race, for victory won't come in one lone heat, but we can by concerted effort raise a cloud of dust that will make the has beens anxious to find out the cause of it.

Get your bet on the rail horse and back him to the limit.

Rome wasn't made in a day but the Bolsheviks put in their appearance soon afterwards.

The Boston police, in their recent strike, evidently overlooked the fact, that few people, in the present reign of old H. C. L., consider a "copper" seriously.

The conclusion seems to have been reached by the coal miners that it is better to suffer with the suffering, than have the comforts with the comfortable.

The "Sky Pilot," who recently won the trans-continental aero race, proved beyond a doubt, that the best of preachers must come down to earth occasionally.

The Peace Treaty, ratified by a sufficient number of European powers, became effective last month. Who said anything about a "Scrap of Paper?"

We've heard so much about making the world safe for Democracy. Wouldn't it be fine if some real good samaritan made it safe for Mr. Ordinary Citizen?

Yes, now there is a fuel administrator, a food administrator, and what not. What we need most is a common sense administrator.

By way of variation, don't it seem reasonable that the public might do better, than at present, by voting on who shall NOT be in Congress?

What are we going to do for consuls and ambassadors in the near future, if it costs a man \$150,000 to stay on his job in a "spikoty" country? That sure is H. C. L.

"HOG."

MEDICAL EXTENSION.

We are in receipt of a communication from the Secretary of the American Medical Association requesting information as to what was being done in Michigan in the movement that is being developed to provide opportunity for medical extension among our members. We were compelled to reply that up to now Michigan had given no consideration to the subject. The need of undertaking such work is apparent and should be discussed and plans developed without further delay.

Illinois, Ohio, Wisconsin and several other states have such courses. The general plan being to hold one, two or three day meetings and clinics in several localities in a state. Definite subjects are covered—fractures, obstetrics, physical diagnosis, heart and kidney diseases, etc. In selecting lecturers care is exercised to designate men who are known and who possess specialized information on the branches they cover.

We all are aware that the scientific practice of medicine today requires constant study. We also know many doctors find it impossible to devote the time or to assume the expense entailed in studying at a clinic or medical center. As a result the percentage is small of those who avail themselves of the opportunity of becoming familiar with scientific development. With a view of bringing such opportunity to all these extension courses are provided.

We do not hesitate in stating that such a plan should be developed in Michigan. Tentatively

we suggest that the following locations should be designated as clinical centers: Detroit, Flint, Saginaw or Bay City, Cheboygan, Traverse City, Muskegon, Grand Rapids, Lansing, Benton Harbor, Kalamazoo, Niles, Jackson, Ann Arbor, Alma and possibly one or two other accessible places in the lower peninsula. In the upper peninsula we suggest Sault Ste. Marie, Marquette, Houghton, and Menominee.

It is our duty to inspire and encourage the raising of the standard of practice and induce research work. We must also bend our support to preventative medicine. As an organization we are obligated to acquit ourselves of that duty. The providing for an extension course of lectures and clinics will enable us to achieve that end.

To do so requires support and co-operation. We are asking our members for an expression of opinion on this plan. Will you not write us and thus let us have the benefit of your advice?

Editorial Comments

County Secretaries are urgently requested to make a diligent effort to secure the prompt payment of the 1920 annual dues. A systematized notification to all members that their 1920 dues are now payable and also a repeat notice or personal solicitation at your meeting will do away with a prolonged demurring campaign. We also urge our members to promptly pay their dues and thus lighten the work of your secretary.

A snow bank is a poor financial depository, so too are second rate proprietary organizations or industrial concerns who promise much but deliver nothing.

When a detail man enters your office and wishes to consume your time ask him if the preparation has the approval of the Council of Pharmacy of the A. M. A. and if it hasn't don't waste any time on him. If you have an inclination to "horse" him a little get posted by sending to the A. M. A. for a copy of New and Accepted Preparations and then show up his subterfuging excuses.

Our maternal clinics are accomplishing commendable results. As their work broadens our viewpoint also widens and we focus our eyes upon heights of greater achievements. We must provide better facilities and care for the mother during labor. We must surround them with greater safety during the lying in period. We must guard the infant against preventable injuries of birth. Therefor maternal clinics are not suf-

ficient; what is needed are more, larger and better maternities. Their endowment is to be sought with greater avidity.

In this present day one hesitates to speak dogmatically. It isn't safe, for what may be the dogma of today may prove to be the fallacy of tomorrow. We can only see the one step ahead and even that must be taken cautiously. To plunge forth blindly and hope to land on both feet, erect and unruffled is courage personified—almost heroism. Therefor in this coming year we should resolve to take definite steps forward; make each step count and thus at the end find ourselves in the advancing platoon and not in the ranks of the distanced.

If silence is golden our members must indeed be enshrined in a coat of gold, or, they are content to plod their way in solitude. We welcome, even faint ripples, of interest in the affairs of the profession, collectively and individually. We solicit discussion of the problems of state, institutional and individual medicine and practice. We plead for active interest and participation in organizational activity. Are we awake or only awakening? May we not be greeted by a responsive note of personal and local comments? We urge the shedding of our "Coats of gold" and a budding forth in a "stripped for action" vestment—mentally and physically.

What we want to know and what other societies want to know is what are you and your associates doing in the solution of the problems of: trained and practical nurses, public health problems, hospitalization, clinics, industrial medicine, specialties, and those other subjects that concern the profession?

The minutes of the Annual Meeting of the Council and the Secretary-Editor's annual report will be published in the January issue.

For several months past practically every medical publication has contained one or more articles dealing with war surgery, its principles, and the results attained. It is still too early to draw definite conclusions or to pronounce adverse criticism. Statistical end results are not yet obtainable. There are certain definite principles however, that give promise of becoming established procedures providing they are applied with scientific accuracy and skill. The point we wish to make is that in reading and studying this literature which is piling up we should be alert to the grasping of how these military procedures may be adapted to civil practice and in emergency and industrial surgery. We must not fail to derive permanent benefits from the experiences gained in military hospitals. Then, too, we must not be too eager to condemn. One must be sure that he understands thoroughly a given procedure, that he has accurately and skillfully applied its prin-

ciple in every exacting detail and lastly, that he is not basing conclusions on experiences encountered in isolated or scattered cases. There is much that is good and much that is bad—it behooves us all to not run off on a tangent—an observing, studious, practical attitude must characterize our positions when we discuss military surgery. But by all means let us **not lose any** of the lessons to be learned. We must attain practical application.

We again wish to remind our members of the necessity of making reports to the State Board of Health of all cases of venereal disease coming to them for treatment. The law now is in force making them reportable. A similar law applies to tuberculosis. Then, too, do not forget the new law that makes it a felony to divide or split fees and that conviction brings about revocation of license to practice in Michigan.

Lessen the labor of your County Secretary by promptly remitting to him your 1920 dues.

The Council of Pharmacy of the A. M. A. has done a magnificent piece of work wholly and solely for the benefit of the public and the doctor. It merits your support and is entitled to it. You cannot afford to cast reflection by not observing its recommendations. Your persistence in using unapproved preparations is unappreciativeness, discourtesy and is abetting a most unprincipled practice of certain manufacturers. We urge every Michigan doctor to be alert to the work of the Council and subscribe their personal support.

In spite of all this social and labor unrest—if we go at it in the right way we can all have a happy new year.

A little more contentment and a little less of this rush for profit will go a long way towards stabilizing things in general. One thing is certain and that is the pace is far too fast for human resistance—something is bound to break soon.

Our Committee on Social and Industrial Relationship under the Chairmanship of Dr. Frothingham is actively at work. We bespeak every support for any assistance this Committee may call for from our County Societies. Incidentally we trust our other committees are also active.

The index for volume XVIII which is completed with this issue is published elsewhere in this issue. The preservation and binding of each volume will give one a reliable record of the history and progress of medicine and the profession in Michigan.

Attention is directed to the communication of Dr. Vaughan published under News Notes. The organization of a Michigan Chapter of Medical

Officers of the war depends upon an expression of desires of our returned officers. The Journal will gladly publish such expressions.

Full support is subscribed to the movement to deport objectors and agitators who seek to attack and destroy our government. Let him who is dissatisfied "hit the trail to Russia." No room, no tolerance, no mercy for him if he attempts to remain in America. If he fails to depart of his own accord let him be "kicked out." Socialism, I. W. W.'s and Bolsheviks must be muzzled and crushed—we must all become identified with the movement that is directed towards their deportation. When labor organizations seek to dictate and defy our established courts and declare themselves greater than our government, their representatives, who utter such pronouncements, must be dealt with in the same manner as traitors have been punished in the past. What is needed, is more Americanism and less egotism of unions and factions, politics and politicians. We need all to rededicate ourselves to our country. We may well turn back to the preamble of our Constitution which our forefathers wrote and therein declared the purpose of our government:

"We the People of the United States, in order to form a more perfect Union, establish justice, insure domestic tranquility, provide for common defense, promote the general welfare, and secure the Blessings of Liberty to ourselves and Posterity, do ordain and establish this Constitution for the United States of America."

And then turn to the third article of the Articles of Confederation:

"The said States hereby severally enter into a firm league of friendship with each other, for their common defense, the security of their liberties, and their mutual and general welfare, binding themselves to assist each other against all force offered to, or attacks upon them, or any of them, on account of religion, sovereignty, trade, or any other pretense whatever."

If you ever were an American now is the time to show it. Now is the time when you too must aid in crushing out this spirit that prevails in antagonism to the principles of our nation, its purposes and its ideals. There is no room, no food, no shelter for anyone who defies or threatens to destroy your and my country and its laws. Send him or her back to where they came from. Imprison him or her who holds that they are above and beyond governmental authority. Let's have more men of the type of the Federal Judge of Indianapolis.

Miscellaneous Nostrums, in its fourth edition, as prepared and issued by the Propaganda Department of the A.M.A. is off the press. Its nominal price of 20 cents, barely covers the cost of publication. Every member should secure this compilation of exposures of fake preparations. The Propaganda Department of the A.M.A. is accomplishing a most commendable work and merits the support of every doctor. Get this book, read it, put it on your reception table. Secure a couple of extra copies to give to your lay friends.

In this day of more or less pessimism it is refreshing to run into an optimist. We found one the other day—he was still carrying an “opener” on his key ring. We do not believe it was still carried as memento—especially in Michigan.

Please pay your dues promptly. Assist your County Secretary to that extent at least. Don't force him to become a dunning collector.

Deaths

Dr. George Duffield.

Doctor George Duffield, life long resident of Detroit, and a scion of one of the Detroit's foremost families, died suddenly Wednesday, November 12th, in his office from heart disease. He went to his office Wednesday morning in apparently good health and died suddenly at 12:45.

Doctor Duffield was a son of D. Bethune and Mary Strong Duffield. He was born April 23, 1859. He was educated in the Detroit Public Schools, Patterson's Private School and the Michigan Military Academy. He received his degree of Doctor of Medicine from the Detroit Medical College in 1882. He studied in Berlin, Heidelberg and Vienna. Since that time, he has practiced in Detroit.

For the last several years, he has been Michigan Medical Director for the Mutual Benefit Life Insurance Company of New Jersey. He was Professor of Clinical Medicine in the Detroit College of Medicine and Surgery and a member of the following medical societies, Detroit Academy of Medicine, Wayne County Medical Society, Michigan State Medical Society and the American Medical Association. He belonged to the following clubs, Detroit Golf Club, Detroit Boat Club and the Country Club. Politically the Doctor was Republican. He was a member of the First Presbyterian Church of Detroit.

In 1888, Doctor Duffield married Clara W. Cowie. They have three sons, George Bethune, Henry Cowie, and Frederick Hodges Duffield. Bethune Duffield is his brother and Divie and Doctocr Francis Duffield are his cousins.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

THE SAMUEL D. GROSS PRIZE—FIFTEEN HUNDRED DOLLARS.

The conditions annexed by the testator are that the prize “shall be awarded every five years to the writer of the best original essay, not exceed-

ing one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens.”

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the “Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College Physicians, 19 S. 22d St., Philadelphia, on or before January 1, 1920.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

William J. Taylor, M.D.,
John H. Jopson, M.D.,
Edward B. Hodge, M.D.
Trustees.

MEDICAL VETERAN'S OF THE WORLD'S WAR.

An Association bearing the above title was formed in Atlantic City, June 12, 1919. All physicians who were on active duty during the war in one or the other of the federal services are eligible. Army, navy, public health service men and medical members of the local advisory boards under the Selective Service law are also eligible. The object of the Association is to perpetuate fellowship, to prepare history, to secure co-operation for the mutual benefit of the medical men who served in the World War, and for the mutual improvement and social intercourse of its members.

It is believed that some good to Medicine and Surgery has come from the experience of our allies and ourselves and in order that this good may not be lost we believe a large and powerful organization should be formed to perpetuate the fellowships, to continue the patriotic devotion to duty, and to serve our country in peace as well as in war.

The Secretary-Treasurer of this Association is Colonel F. F. Russell, Army Medical School, Washington, D. C. It is to be hoped that every Michigan medical man will join this organization. The Executive Committee had a meeting in St. Louis, Missouri, October 12. Up to that time,

2,200 members had completed their membership. The dues are one dollar (\$1.00) a year. Send to Colonel F. F. Russell for an application blank.

Victor C. Vaughan,

President, Medical Veterans of the World War.

The Detroit Medical Club held its first meeting of the fall on Thursday evening, October 16, 1919, in the Wayne County Medical Society building. There was a good attendance as all the members have returned from War Service.

Dr. Don M. Griswold presented as the paper of the evening "The Study of 1,000 Cases of Diphtheria in Detroit." The average dose of antitoxin recommended was 20,000 units for milder cases, 40,000 for more severe cases while 60,000 had been used in the worst cases. He recommended immunization only in such cases as did not favorably respond to the Schick test. For immunizing purposes the latest method was declared to be the administration of small doses of diphtheria toxin combined with moderate doses of antitoxin. By this means it has been found that immunization for at least five years is obtained.

The next monthly meeting will be addressed by Dr. A. S. Warthin of Ann Arbor, the topic being "Syphilis of the Lung."

AMERICAN MEDICAL SCHOOL IN PARIS.

The project for the establishment of the American School of Medicine in Paris took definite shape at the meeting held recently in the office of Charles F. Beach, an American lawyer in Paris. In addition to a number of laymen, Drs. Tuffier of the Academy of Medicine, Dehelly, Alexis Carrel, Edmond Borner, and other noted physicians and surgeons of Paris were present. The new school is to be entirely postgraduate in character, and will be under the joint direction of American and French physicians.

SIX YEAR'S COURSE REQUIRED.

With the opening of the session 1919-1920 of the medical department of the Western University, London, Ont., the course of medical studies

will be six years, excepting that those matriculants who left for overseas service will be on the five-year plan. Toronto and Queen's Universities now pursue the same plan.

The following Michigan doctors were made Fellows of the American College of Surgeons: Drs. Bruce Anderson, W. E. Elodgett, John K. Gailey, E. C. Hoff, C. F. Kuhn, G. F. Parmerlee, G. C. Pemberthy, W. A. Repp, W. J. Seymour, C. M. Stafford and W. E. Weltz.

Harper and Grace Hospitals of Detroit have been placed on the accepted list of hospitals of the American College of Surgeons.

St. Joseph County has started off with new vim on a series of meetings after having been somewhat dormant during the war.

Dr. Karl H. Kellogg, Dr. R. H. Harris and Dr. C. M. Mercer have opened joint offices in Battle Creek.

Dr. Bertrand L. Jones has opened offices in the Kresge building, Detroit.

Dr. Wesley W. Wilson of Detroit has located in St. Clair.

Dr. Morrill of Big Rapids has located in Painsdale.

Dr. H. C. Miller of Hillsdale has been elected county physician.

Dr. Wm. Westrate has located in Holland.

Dr. James H. Quick has located in Houghton.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. Secretaries are urged to send in these reports promptly

BRANCH COUNTY.

Our county medical society held its regular quarterly meeting on the 21st inst at Library Hall in this city. It was an occasion for welcoming home our professional brethren, Dr. Bien and Dr. Griffith, late of the medical service in the U. S. A. The former read a paper on the medical examination of recruits in the army and the latter gave an oral account of his experience in the service.

The Secretary read a summary of the provi-

sions of the bill relating to venereal diseases and while admitting the excellence of some of its features expressed doubt of the act being practical unless the profession as well as the community co-operate. That view was sustained in the discussion which followed. The general opinion was that as soon as the provisions of the bill become public venereal cases would drift into the hands of irregulars and quacks, thus defeating the end for which the bill was intended.

G. H. Moulton, Secretary.

GENESEE COUNTY.

Annual meeting of the Genesee County Medical Society held in the Dryden Cafe at noon luncheon on Wednesday, October 22, 1919.

Meeting called to order by President O'Neil.

Secretary's annual report:

Number of meetings including annual picnic	13
New members taken in during the year	10
Lost by death during the year	2
Transferred to Wayne	1
Total membership	106
Members that volunteered for Gov. service	27

Respectfully submitted,
D. D. Knapp, Secretary.

Treasurer's annual report:

Cash in bank January 15, 1919	..\$ 45.30
Total receipts	743.85
	<hr/>
Total disbursements	\$789.15 711.36
	<hr/>
Balance in bank	\$ 77.79
Total membership	106
Total paid dues	72
Total received army credit	27
Transferred	1
Delinquent	6

Respectfully submitted,
A. A. Patterson, Treasurer.

Ballots were prepared and the following officers were elected for the ensuing year.

- President—H. E. Randall.
Vice-President—W. H. Winchester.
Secretary—W. H. Marshall.
Treasurer—E. D. Dimond.
Medico-Legal Officer—F. B. Miner.
Directors—C. H. O'Neil (long term).
T. S. Conover (short term).

Delegate—J. C. Benson.
Alternate—F. E. Reeder.

Dr. John Hornsby of Munseyville, Washington, D. C., was introduced and explained in detail the plans for the new hospital proposed for Flint.

Moved and seconded that the Genesee County Medical Society endorse the proposed new Charter for Flint.

Carried unanimously.

Moved and seconded that Dr. Hornsby be elected to honorary membership in the society.

Carried.

Meeting adjourned.

D. D. Knapp, Secretary.

GRATIOT-ISABELLA-CLARE COUNTY.

The annual banquet for the members and their wives was held in the Republic dining hall in Alma Tuesday evening, Nov. 18. Covers were laid for 40 but only 29 attended. Music was furnished by the Republic orchestra.

President Baskerville was in his usual happy vein as toastmaster, and called on the following: Dr. I. N. Brainerd, The Doctor; Mrs. C. E. Burt,

a reading; Dr. S. E. Gardiner. The Doctor's Diversions; Dr. E. H. Foust and W. E. Barstow, vocal selections.

The eats were good, the music was better, the toasts were best. The general feeling was these events are too far apart. Perhaps we will have them oftener next year.

E. M. Highfield, Secretary.

The October meeting of the Gratiot-Isabella-Clare County Medical Society was held at Brainerd Hospital, Oct. 16. Dr. Merrill Wells of Grand Rapids was the guest of the day. The Doctor talked from notes on Cerebro-spinal Meningitis. He went into every branch of the subject thoroughly, history, etiology, pathology, bacteriology, especially in relation to the diagnosis by examination of the spinal fluid, and the treatment by intra-spinal and intravenous injections of Flexners serum. Altogether the doctor gave a very scholarly presentation of the subject which was appreciated by everyone present.

By motion it was decided to have our annual banquet next month.

E. M. Highfield, Secretary.

KALAMAZOO ACADEMY OF MEDICINE.

Regular meeting of the Kalamazoo Academy of Medicine was held October 28, 1919, with President Dr. F. C. Penoyer presiding.

The following scientific program was carried out:

1. "Experiences with Rockefeller Yellow Fever Commission in Ecuador."
Dr. Charles A. Elliott, Chicago.
2. "When to Interfere in the Toxemias of Pregnancy."
Dr. Charles B. Read, Chicago.

B. A. Shepard, Secretary.

MONROE COUNTY.

Meeting held at Monroe November 6, 1919. Sixteen members being present.

This meeting was held in conjunction with a tuberculosis clinic conducted by the Michigan Anti-Tuberculosis Association and the Monroe County Tuberculosis Society.

The chest examinations were done by Dr. E. R. VanderSlice, and Dr. Wm. R. Vis of Grand Rapids.

Program.

Neurology and Psychiatry of the War. Dr. C. W. Hitchcock, Detroit.
Tuberculosis Clinic.
Luncheon at the Park Hotel.

O. M. Unger, Secretary.

SANILAC COUNTY.

A meeting of the Sanilac County Medical Society was held in the town hall, Marlette, on Wednesday, Oct. 8, at two o'clock p. m.

Dr. E. K. Cullen, Detroit, and Dr. B. E. Brush, Port Huron, were the speakers.

Dr. Cullen gave a very able and interesting talk on "Some Differential points in Pelvic Diseases" which elicited considerable discussion.

Dr. B. E. Brush gave a very instructive and lengthy talk on "Diseases of the Gall Bladder" which also elicited much discussion.

A unanimous vote of thanks was tendered Drs. Cullen and Brush for their courtesies.

Three new members were admitted to the Society at this meeting.

We were pleased to extend a welcome to the visiting members present from St. Clair, Lapeer and Tuscola Societies. Come again, boys, a hearty welcome awaits you to any of our meetings.

J. W. Scott, Secretary.

Book Reviews

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, A.M., M.D., Professor of Hygiene, University of Pennsylvania. Seventh Edition, illustrated, 553 pages, cloth. Lea & Febiger, Philadelphia. Price, \$3.00.

A seventh edition attests the work and value of this text. Splendid in the manner in which the text covers the subjects that discussed, with illustrations that enhance the text—the volume is a comprehensive treatment of the subject.

EXPERIMENTAL PHARMACOLOGY. By Hugh McGlengan, Ph.D., M.D., Professor Pharmacology, University of Illinois. Illustrated, cloth. 248 pp. Lea & Febiger, Philadelphia. Price, \$2.75.

This is an excellent manual that presents experimental pharmacology in a brief and concise form. An adequate view of the field is presented.

Miscellany

TREATMENT OF JOINT, BONE, NERVE AND MUSCLE INJURIES BY MECHANICAL MEANS.*

Joseph C. Scal, M.D.
New York, N. Y.

In sprains the sooner mechanical treatment is instituted the more rapidly a normal condition can be obtained. After resting the injured part and applying cold applications for 24 hours, active and passive treatment, consisting of exercise and massage, should be begun. No pain accompanies proper movement; the presence of pain is an indication motion should be stopped temporarily. This treatment can do no harm as there is no danger in exercising and using a sprained limb, in fact it tends to restore function to muscles and joints, reduce swelling and edema, promote absorption, and prevent adhesions, no matter how slight the injury may have been.

In cases where the relief of swelling is neces-

sary during the first 24 hours a bandage applied firmly and evenly over a number of layers of absorbent cotton will obtain the desired result by preventing further extravasation and promoting absorption in from 6 to 8 hours. This treatment should be used only in the first 24 hours after the injury. In cases where the confidence of the patient cannot be obtained so as to make him co-operate in exercising and using his limb, strapping is the next best thing.

Fractures—The ideal treatment of fractures consists of reduction and the x-ray; prevention of recurrence by splintage; relief of pain and elimination of edema by early baking and gently massage, and the prevention of adhesions and muscular wastings by graduated contractions. Early bakings, light massage and passive movements will shorten the period of disability and length of treatment and prevent after effects, provided good union and good apposition exist; will prevent adhesions and stiffness in joints; reduce atrophy of muscles to a minimum and prevent excessive callus. When a fracture is near a joint and kept immobilized in splints until union is firm, the joint will become stiff and muscular atrophy will result. In these cases it is advisable to remove the splints as early as possible and institute baking, massage, and the various mechanical movements.

Nerve injuries—Especially in peripheral nerve injuries weakness and muscular wasting inevitably result and these are followed by paralysis and contractures. When nerves are cut the joints should be kept free and the nutrition of the muscles around them maintained so that the joint will be able to functionate when the nerve recovers. If a severed nerve is sutured, which should always be done if possible, it must be held in position which will produce as little tension as possible on the nerve or paralysed muscle until its function is restored.

Treatment by Heat—An affected limb should be kept warm and protected from cold. Heat also makes a treatment by massage and electricity more effective and should be applied before and after such treatment when possible.

Treatment by Massage—To be effective massage must be gentle at the beginning, all movements must be painless and should be applied daily from the early stage.

Treatment by Exercise—This is used for re-educating and redeveloping wasted muscles and consists of active exercise against resistance. For a shoulder joint with limited movement the so called "wall climbing" exercise is advised. This consists in the patient standing with his face against a wall or door, and putting the hand of the affected side as far up as he can, endeavoring to place the finger tips on the top. When he reaches the top he fixes the hand with the other well hand and bending knees slightly uses his body weight to exert a pull on the joint.

Treatment by Graduated Contractions—This is ideal routine for muscular wasting and muscular insufficiency, and no matter how wasted a muscle is, provided the nerve supply is undisturbed, a contraction can be obtained. It should be given daily from 10 to 15 minutes together with

*New York Medical Journal, Vol. CX, Whole No. 2122, No. 5.

gentle massage. It is indicated principally in sprained muscles. The method of application is to place the limb at absolute rest, and apply the faradic current, the degree of contraction being controlled by the manipulator, and a group of muscles is stimulated while in absolute relaxation.

In conclusion I would say that a stiff and crippled part can be restored to functional utility only by getting rid of adhesions, restoring mobility and rebuilding the muscular tissue which has been permitted to waste and atrophy. With the early application of the forms of treatment outlined here we will see fewer stiff joints and wasted members than we have seen in the past.

TREATMENT OF PURULENT ARTHRITIS BY WIDE ARTHROTOMY FOLLOWED BY IMMEDIATE ACTIVE MOBILIZATION.*

C. Willems, M.D.
Ghent, Belgium.

No therapeutic law has been more firmly established than that which has made immobilization obligatory for every joint injury, from the mild to the most severe. Nevertheless we all know its consequences; muscular atrophy which is rapid for certain muscles such as the femoral quadriceps, and stiffness of the joint. Also we know that such complications when once established are extremely tenacious and that frequently they do not yield completely to varied and very prolonged physiotherapeutic treatment. Even in the more fortunate cases it is necessary to continue such treatment for some months before getting the required results. Immobilization has been considered a necessary evil.

I have freed myself by degrees from practicing the law of immobilization. I commenced evacuatory punctures to drain traumatic effusions of the knee, hemarthroses and hyarthroses, and by making the patient walk immediately. Not only could they do this without any difficulty but their lesions cured in a few days without leaving any trace.

Since the war the great frequency and infinite variety of articular lesions gave me the opportunity of applying this new method on a large scale. In the simplest and most severe conditions I have used immediate active mobilization after the operations for penetrating joint wounds with or without an included projectile and for all varieties of intra-articular war fractures. I have not confined myself to non-infected fresh cases. I have also treated cases of purulent arthritis and it is perhaps in these difficult infected cases that the method has given the most astonishing success. But the object pursued differs. In simple lesions immediate active mobilization obviates atrophy and ankylosis. In purulent arthritis it seeks out the contrary to drain the articulations. In the first case the joint must be completely closed; in the second it must be left widely open.

A word as to the technic. It is practically the same whether the wound is aseptic or infected. In the case of recent injuries we commence by exercising the soft parts of the wound, proceeding with the eventual esquillectomy of the fracture area, extracting projectiles and hermetically closing the joint. In purulent arthritis on the contrary; we must first execute an arthrotomy and leave the wound largely open. But starting from this movement we always proceed in the same way for mobilization.

The expression "immediate active mobilization" must be taken in its literal sense. The mobilization must be active, that is to say, made by the patient himself by muscular contractions. The movements ought to reproduce the essential normal movements: Extension, flexion and rotation. The goal to be reached is to restore the physiological function of the articulation as much as possible, and in the case of the knee this function is walking.

Active mobilization cannot in any way be replaced by a passive mobilization, which does not call into play either the muscles of the limb or its nutrition and which tends to restore mobility alone.

Mobilization must be immediate, that is, commenced as soon as the patient awakens from the anaesthetic. The patient must not be permitted to rest. The movement must be pushed to the maximum in every direction and must be kept up, so to speak uninterruptedly. He needs supervision by a personnel in touch with the necessities of the treatment.

Active mobilization is always possible. It becomes more or less easy according to the extent of the lesions, the courage of the patient and his aptitude in directing his efforts to the muscles which must be contracted and not wasting his strength in contracting other muscles than those necessary. Movements become easy accordingly as they are repeated.

Active mobilization is not painful in the true sense of the term, except when it displaces large bone fragments and in such a case it is contra-indicated. But the movements are laborious and call for effort. It is found that a patient treated by active mobilization uses his limb in a variety of non-prescribed ways which he would not employ if the movements were painful. Many have stated that when a little pain is felt in periods of rest the best way of stopping it is to resume movements.

Active mobilization gives the most surprising results in purulent arthritis. I do not hesitate to assert that against this formidable infection the new method is more efficacious than any of other means hitherto at our disposal.

In applying mobilization to the treatment of articular suppurations, my chief aim was to realize a satisfactory drainage after arthrotomy. We know that efficacious drainage of a joint by the ordinary means is an utopia. No kind of tube, no system of tampons, no means of irrigation, obviates retention nor stops the progress of infection. And it is on account of this insufficiency of drainage that arthrotomy has been

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almost abandoned and replaced by resection. But I have always been under the impression that to resect for the purpose of drainage alone is to go too far; and I have endeavored to empty the joint by expression, thanks to active movements. When a suppurated articulation has been opened by a large uni- or bilateral arthrotomy (an arthrotomy is never necessary) this is what is observed: At each extension and at each flexion the synovial surfaces are forced together by muscular contraction and pus is expressed often in the form of a jet. When the movements are very extensive and the muscles contract more vigorously the expression of pus is so much the more complete. If the movements are repeated a sufficient number of times the secretions are eliminated in accordance with the movements, retention is prevented and articular drainage profoundly influences the local and general conditions. Locally, suppuration evolves like an ordinary abscess, but slowly. It lasts for a few weeks abundant at first, then less and finally disappears completely. During this period, the arthrotomy opening or openings cicatrize. A species of fistula persists which closes from time to time and must be periodically opened. Oedema of the peri-articular tissues diminishes very rapidly and the tissues remain supple. Peri-articular abscesses are, so to speak, unknown.

With regard to the general state it is rapidly modified. From the commencement of active mobilization fever falls, not completely, as the patient may show 38 degrees C. for some time. But the feverish aspect disappears, such patients do not look like badly infected cases.

Drainage is therefore realized in an ideal manner without a tube, and without irrigation of any kind. I am of the opinion that irrigations are more harmful than useful.

Drainage was my aim at first but I obtained more. I have obtained preservation of the articular mobility. Unquestionably we must consider the recovery of a purulent arthritis with ankylosis as satisfactory, and be thankful that the patient has escaped resection. But it is evident that a mobile joint is much better than the best kind of ankylosis.

If the procedure is followed in the manner indicated, mobility of the joint will always be preserved. From the moment suppuration notably diminishes we sometimes see a tendency to stiffness. This is why I now partially and progressively close the arthrotomy wounds from this moment, and only leave such openings that are strictly necessary for the discharge of pus which is still forming. Proceeding in this way, mobility will be perfect and absolutely normal in the great majority of cases, no matter what the causative microbe may be. The limb will show no functional disturbance after an infection as terrible as purulent arthritis was formerly considered.

In purulent arthritis still more than in non-infected lesions it is difficult to realize the possibilities of active mobilization. It is so contrary to classical ideas that we must see the patients move their limbs in order to understand. The

truth is that movements are perfectly possible in purulent arthritis treated by arthrotomy, to the same extent as in non-infected articular lesions treated by incision of the damaged tissues and total primary sutures. Movements are no more painful in the first place than in the second. They are equally laborious in the two cases. True pain appears only when the drainage is insufficient; and when it becomes necessary to drain more completely to cause an immediate cessation of pain. Whenever a patient complains of pain, especially in the politeal space, it is almost certain that there is retention. The patients themselves soon learn to recognize this cause of pain and stop it by means of some movements.

Patients with purulent arthritis of the knee can walk early, even before cicatrization of the arthrotomy wound. It is the same with purulent tibiotarsal arthritis. It is a curious experience to see them walk with the joint widely open, expelling a little pus at each step.

With regard to the question whether immediate active mobilization is applicable to cases in which purulent arthritis accompanies an intra-articular fracture, it can be answered affirmatively. As in non-infected lesions mobilization can be effected in purulent arthritis with fracture on condition that there is no fear of displacing the fragments. If there is, movements are contraindicated because they might dislocate the joint.

A second circumstance which renders this method inapplicable is primary destruction of the ligaments and of the articular capsule. When the means of union have disappeared it is evident that the joint can no longer be mobilized by muscular contraction. But it is well to know that a partial destruction of the means of union does not render the treatment quite inapplicable.

On account of the great value of this paper, it has been abstracted very fully.

MENTAL DEFECT IN GEORGIA.

(Mental Hygiene, Oct., 1919, V. V. Anderson).

Summary.

Forty per cent. of inmates of the almshouses investigated were feeble-minded.

A study of a typical orphanage showed that 28.7 per cent. of the children were feeble-minded. If the same percentage exists in the other orphanages of the state, then there are at least 810 feeble-minded children in orphanages who need special care and training in a school for the feeble-minded.

Seventeen and five-tenths per cent. of the male inmates of the state-prison farm were feeble-minded. Sixty-five and eight-tenths per cent. of the inmates of this institution are classifiable in terms of deviation from normal mental health. Of the women inmates of the prison, 42.8 per cent. were found to be feeble-minded. In the two typical county jails examined, 34 per cent. of the inmates were feeble-minded.

Of 122 immoral women examined, 43.5 per cent. were found to be feeble-minded. The present policy of treating these feeble-minded girls for venereal disease and then turning them out into the community to acquire it over again is a costly one. Probably the greatest single factor in the spread of venereal disease is the feeble-minded prostitute. An institution for defective and delinquent girls and women is most urgently needed.

Of 100 cases of juvenile delinquents studied in the juvenile court, 17 per cent. were found feeble-minded. Fifteen per cent. of the Fulton County Reformatory for boys were feeble-minded, 24.1 per cent. of the inmates of the State Reformatory for Boys, and 27 per cent. of the inmates of the Georgia Training School for Girls. It is these feeble-minded delinquent children that later on become the chronic recidivists, as is seen in our jails, adult criminal courts, and state prisons.

Finally, 3.5 per cent. of the children examined in the public schools were found to be feeble-minded. These are the children who are to become the "grist" of our future courts, jails, reformatories, and state prisons, and to form the very backbone of the vast and grim procession of paupers, criminals, and prostitutes of tomorrow.

Recommendations.

1. Training School and Farm Colony for Feeble-minded Persons.

(a) Custodial Department.

This department includes the lower grades of idiots and epileptics. Some of these children are as helpless as infants, incapable of standing alone or of dressing or feeding themselves. The chief indication with these lower grade cases is to see that their wants are attended to and to make them comfortable and happy as long as they live; but even with these cases, much improvement is possible in the way of teaching them to wait on themselves, to dress and undress, to feed themselves and to give attention to personal cleanliness and habits of order and obedience. In this way, quite a large group, even of these low grade cases, may be made less troublesome, and the burden and expense of their care may be considerably lessened.

(b) The Training School.

Here manual training and other methods are especially adapted to the training of feeble-minded children. Dr. Walter E. Fernald has said "these methods of physiological training of the senses and faculties, of exercising and developing the powers of attention, perception, and judgment, by teaching the qualities and properties of concrete objects, instead of expecting the child to absorb ready-made knowledge from books, of progressively training the eye, the hand, and the ear, these were the methods formulated by Séguin," etc.

Dr. Fernald further says: "The most prominent feature of our educational training to-day

is the attention paid to instruction in industrial occupations and manual labor. In this 'education by doing' we not only have a very valuable means of exercising and developing the dormant faculties and defective bodies of our pupils, but at the same time we are training them to become useful men and women. Carpentering, painting, printing, brick-making, stockraising, gardening, dairying, farming, domestic work, the manufacture of clothing, boots and shoes, brooms, and brushes, and other industries are now successfully carried on by the pupils in these schools, in connection with the strictly mental training."

(c) The Farm Colony.

An essential part of this school for the feeble-minded is the farm colony that should be attached to it. A large proportion of the feeble-minded can be usefully and profitably employed, if intelligently directed. They can clear waste land, grub bushes, remove stones, build fences, make roads, renovate orchards, drive teams of oxen or horses, milk cows, feed pigs, take care of chickens, cultivate land, and gather crops. They can excavate for buildings, haul stones for foundations, make brick and cement blocks, and do the necessary painting to keep the buildings neat and attractive.

There is a stream nearby, they may go in bathing. The results of their labor become more evident. Where they make their own concrete blocks and construct their own buildings, they feel that they are really doing something worth while, and appreciate the fact that they are making their own home. The destructive tendencies often marked in the schoolroom find their outlet here. Instead of breaking windows, destroying furniture, or setting fire to buildings, as these children so often do when confined in penal institutions, they cut down bushes, pull up stumps, burn brush heaps, and make waste land available for farming, thus increasing its value and decreasing the cost of maintaining themselves as the wards of the state.

(d) Kind of Land and its Location.

Cheap land should be bought, with good water and drainage facilities—undeveloped land that can be made useful and valuable by clearing, draining, and preparing for cultivation. This work the feeble-minded can do. Barren or near-barren land must not be selected. The location should be far enough away from cities so that it can be purchased for its inherent agricultural value, but no so far as to be inaccessible. The more accessible the feeble-minded person is to his family and friends, when in the institution, the more readily will the latter consent to such care.

(e) Type of Buildings.

The feeble-minded can be economically housed if we discard the mistaken idea of elaborate buildings and equipment. At the same time, they can be made happy, useful, and contented. Simple buildings, not more than two stories high, of frame, cement, or cement block, may be used. It is probably more economical to build

with concrete blocks, where the boys can do a large part of the work themselves. The buildings should house from fifty to one hundred persons each. This presents the possibility of segregation of different types. Not only can the negroes be separated from the whites, and the boys from the girls, but the vicious and delinquent types from the more tractable types, the high-grade cases from the low-grade, the epileptics, etc.

(f) Medical Superintendent.

It is probably needless to add that, inasmuch as the innumerable problems confronting the superintendent of such an institution are so essentially medical in nature, having to do with the various physical and mental aspects of feeble-mindedness, only a physician trained in this particular field should be at its head.

2. Special Classes in Public Schools.

In every school district throughout the state, there are children who are not receiving educational benefit commensurate with the effort and money expended on them. These children are a drag on the classes. These backward children have just as much right to education as the normal child. This education can be made of the largest profit to the child and to society if it is directed along lines that will give him industrial training and habits fitted to his particular capabilities and adaptabilities.

Through the organization of special classes, the normal class and teacher are relieved of a drag. The retarded and slow children are encouraged and speeded up. The intractable children become interested in school work. The defective children are trained to do the things they are capable of doing. By proper correlation of the work of these special classes with the State Institution for the Feeble-minded, many of these children may be prepared for happy and useful lives under state supervision.

3. State-wide Supervision.

If these special classes in the schools are to be of the greatest service, then some plan of supervision and control of the feeble-minded is necessary. Are we to look after these defective children in the special classes in schools until they are fourteen, fifteen and sixteen, and then suddenly throw off all responsibility and turn them out into the community? The school and the special class furnish us with a nucleus for a system of supervision, enable us to detect early the feeble-minded child and to give him proper supervision or institutional care. If, now, there is accessible to the school and the special classes a mental clinic for the detection of the feeble-minded child and the diagnosis of his particular possibilities, capabilities and adaptabilities, a so-

cial-service department, containing workers to act as visiting teachers, keeping in touch with both child and home and a vocational and employment bureau, we have the beginnings of an effective machinery for supervising the feeble-minded in the community. The need for some properly constituted authority to take on the supervision of the feeble-minded is urgent.

4. Mental Clinics.

The creation of mental clinics throughout the state, manned by the staffs of the state hospital for the insane and the school for the feeble-minded, to act as clearing houses for the defective, the subnormal, the peculiar, and the nervous children of the public schools, the abnormal and delinquent children of the juvenile court, and the various complex mental problems in the home and in the community, will do much toward the prevention of insanity, pauperism, and criminality in the oncoming generation.

5. Laws for the Commitment of the Feeble-minded.

There should be laws containing provisions for the diagnosis, commitment, parole, and discharge of feeble-minded persons, stating who are qualified to diagnose feeble-mindedness and making the usual provisions for the protection, care, training, and segregation of mental defectives.

CUTANEOUS SENSIBILITY IN CASES OF PERIPHERAL NERVE INJURY.

(Arch. of Neur. & Psych., Nov., 1919, Stanley Cobb).

Conclusions.

1. A review of the experimental and clinical work on cutaneous sensibility indicates that the epicritic and protopathic hypothesis of head and his collaborators should be abandoned.

2. Dissociations of sensation due to peripheral nerve lesions arise from comparing stimuli not only qualitatively different but quantitatively unequal. In short, they are artefacts.

3. Clinical examinations should be simple and since areas of dissociated sensation in peripheral nerve lesions are shown to be due to artefact, examination for one mode of sensation suffices for diagnosis.

4. For clinical sensory examinations quantitatively standardized stimuli should be used.

5. Subcutaneous pressure is best tested with an instrument which gives the threshold values in grams.

6. Hyperalgesia may follow the course of superficial veins.

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